Milestones PROFESSIONAL®

TUTORIALS

Lesson 12
ValueSets 4 & 5 and DataGraphs

In this lesson you will learn how to:

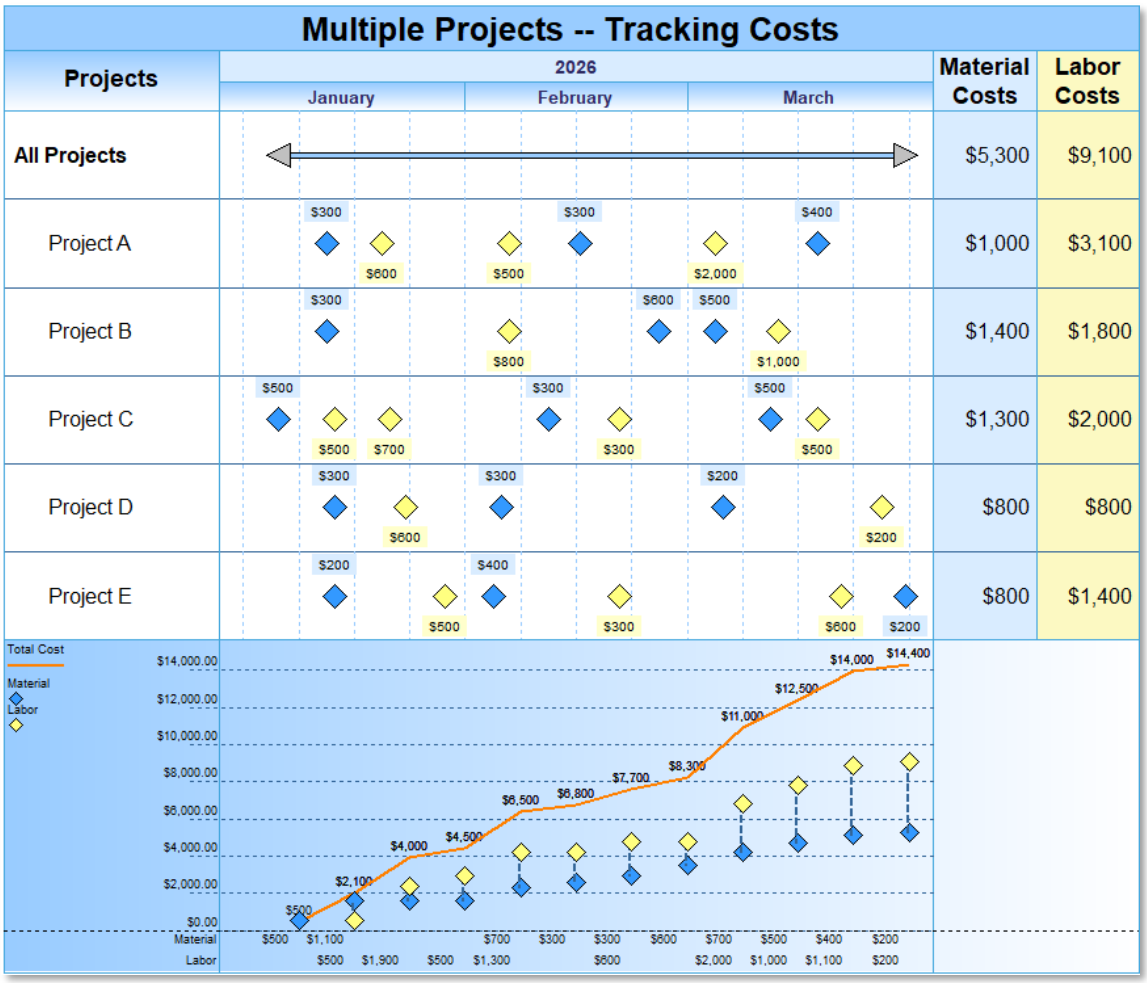
- Create two symbol Valuesets
- Create a ValueSet which totals other ValueSets
- Create two DataGraphs, then overlay one DataGraph on another one
- Create a ValueSet SmartColumns
- Enter ValueSet values for symbols
- Display ValueSet values as symbol text using a substitutable text string

Numeric information can be shown along with a schedule. These numbers can be contained in value categories called ValueSets (e.g. Manhours, Budget, and Costs) and then graphed on a DataGraph, as well as totaled for each row (in columns).

There are five different types of ValueSets possible with Milestones Professional. In this lesson you will learn about Types 4 & 5.

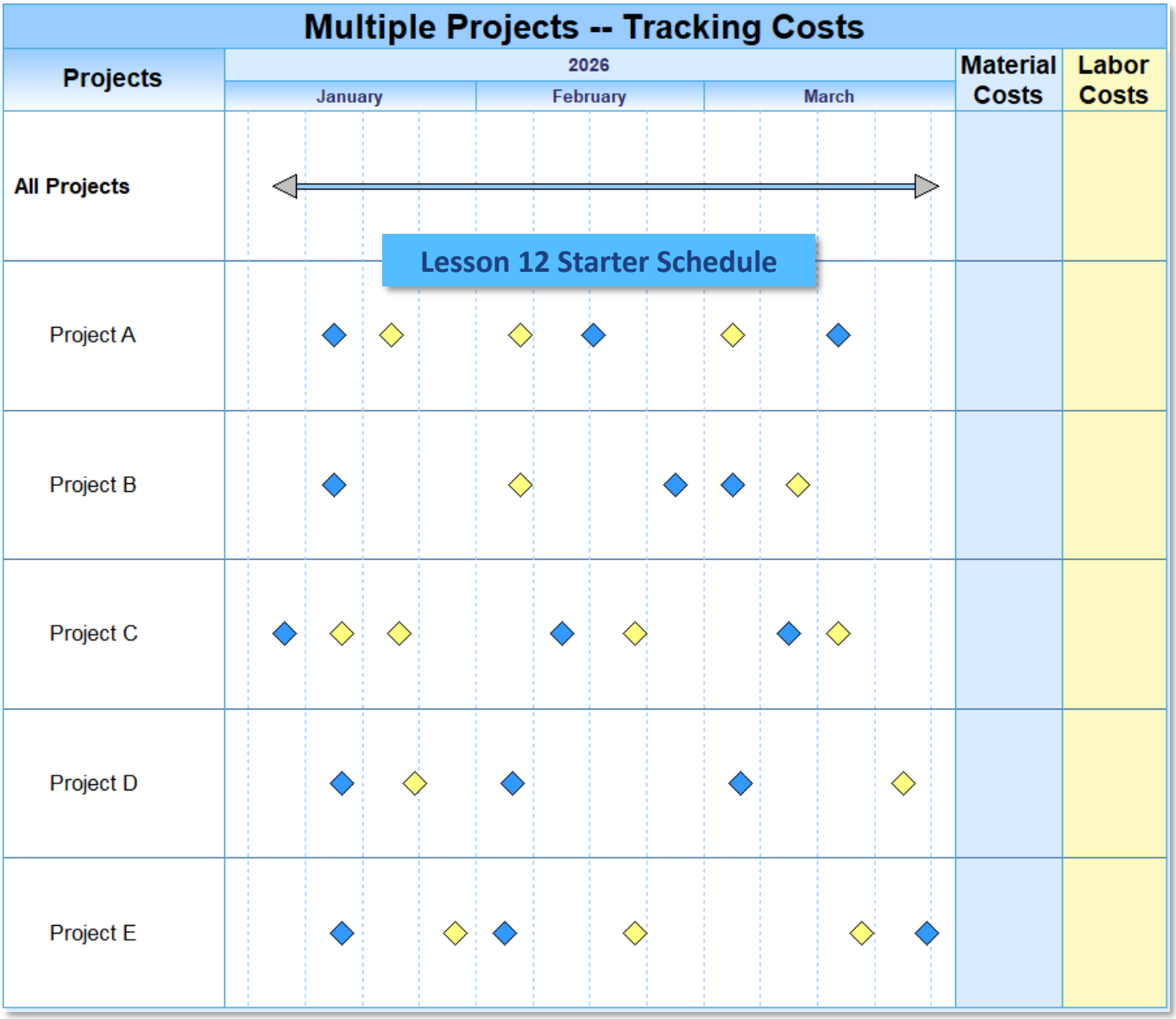
Type 4 ValueSet values are attached to symbols. When the symbol moves, the values move with them. If the symbols move to a new time period, then the DataGraph changes. If any values, attached to the symbols, increase or decrease, then the column values and DataGraph values also change.

A Type 5 ValueSet can total up to 8 other ValueSets (e.g. Material cost ValueSet is added with Labor Cost ValueSet to get Total Cost ValueSet which can be graphed).



Open the schedule for this Lesson

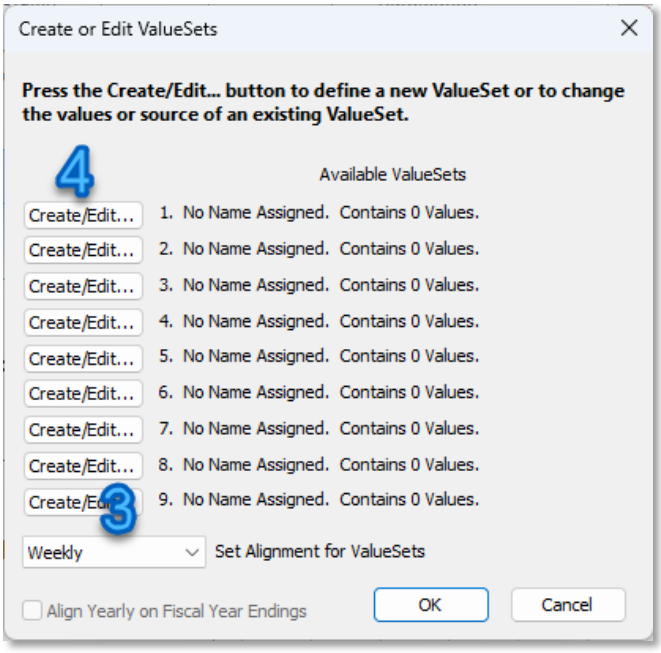
1. Choose the toolbar *File tab*.
2. In the Files and Templates: Open and Save section select *Open Samples or Lesson*. The Open a Sample Chart dialog displays.
3. Under Select a Folder below to Open select *Lessons*. Pick *Lesson 12 Starter Schedule.mlq*.
4. Save the schedule to an accessible folder on your computer. On the File tab, in the Files and Templates: Open and Save section, choose *Save As…*. In the menu that displays choose *Chart*. Name, and then save the schedule.



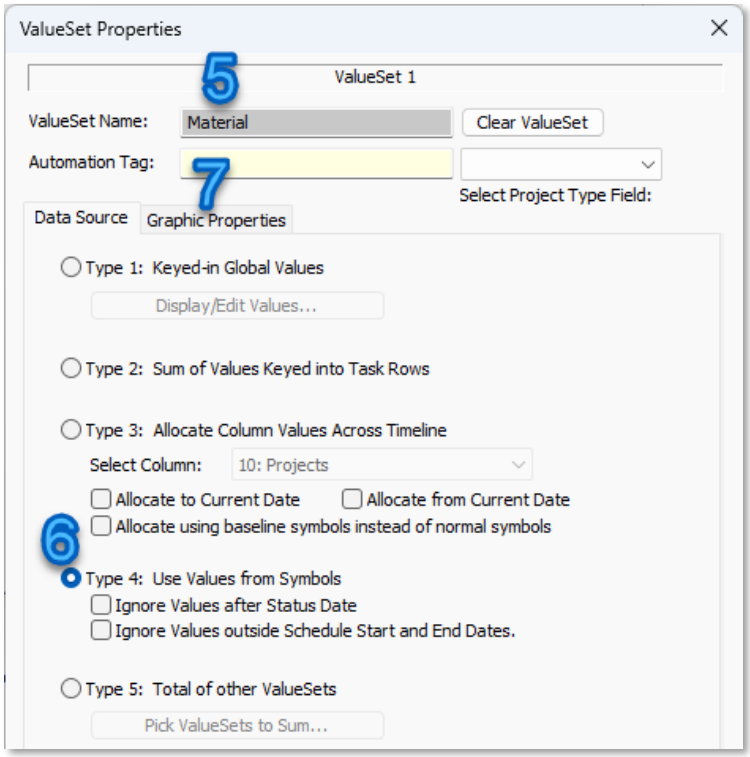
Create 2 Type 4: Use Values from Symbols Valueset

Create the Material ValueSet

1. Choose the toolbar *Tools tab*.
2. In the Graph Options section, choose *Set Up ValueSets*. The Create or Edit ValueSets dialog box displays.



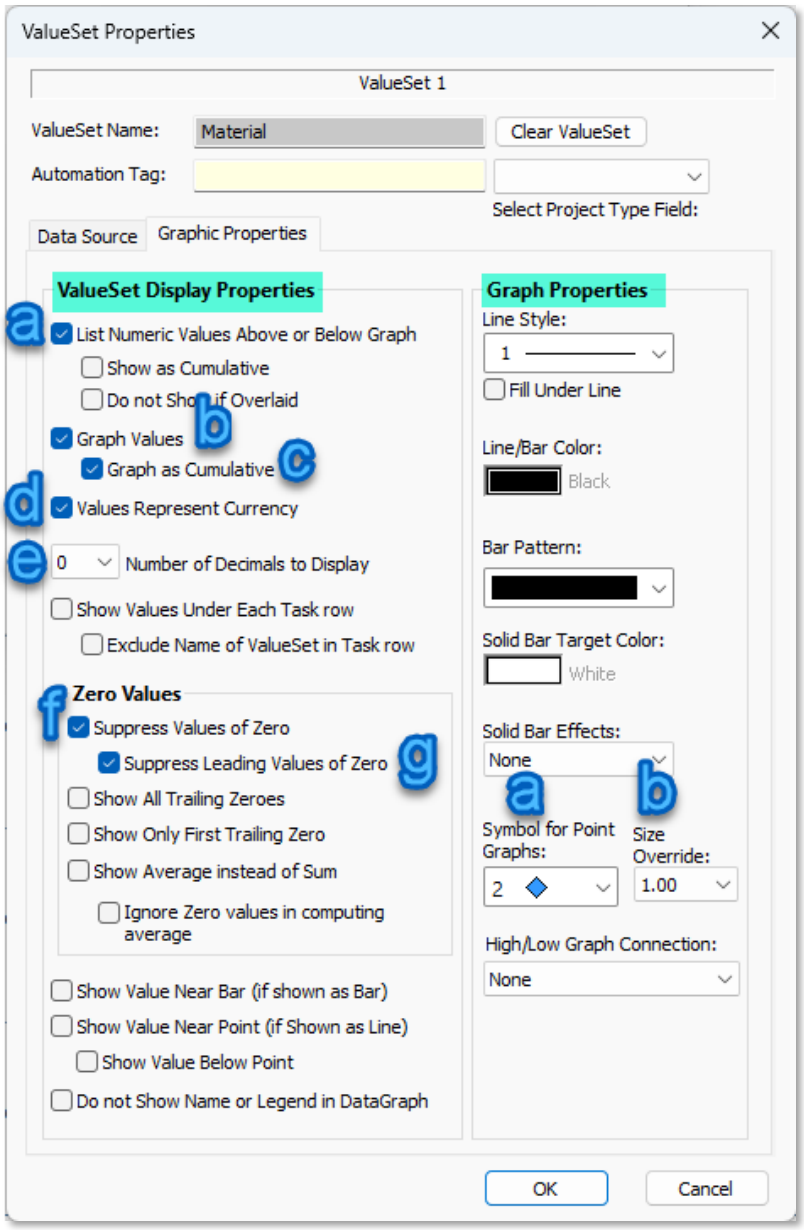
3. Choose *Weekly* as the time period to align the values.
4. Click the *Create/Edit* button to the left of *1: No Name Assigned*. The ValueSet Properties dialog box displays.
5. For ValueSet Name enter *Material*.
6. Under the Data Source tab, choose *Type 4: Use Values from Symbols* as the ValueSet type.
7. Click the *Graphic Properties* tab to set the ValueSet Display and Graph Properties. (Continue to next page to see selections to make.)



Create 2 Type 4: Use Values from Symbols Valueset (continued)

Create the Material ValueSet (continued)

The ValueSet Properties dialog Graphic Properties tab



UNDER ValueSet Display Properties

a. ☑*List Numeric Values above or Below Graph* to have numeric ValueSet values display in each time increment above the graph for Materials.

b. ☑*Graph Values* to graph the Materials ValueSet values in the DataGraph.

c. ☑*Graph as Cumulative* to have Materials ValueSet values add together to create the graph.

d. ☑*Values Represent Currency* and the $ will display on all values for the Materials ValueSet in the DataGraph.

e. Select *0* for *Number of Decimals to Display.* Numbers will be shown as whole numbers.

f. ☑*Suppress Values of Zero* to have zeros not be listed or graphed.

g. ☑*Suppress Leading Values of Zero* to have graph not start at zero and not list a starting zero.

UNDER Graphic Properties

a. Material ValueSet values are going to be graphed as points (symbols). Under *Symbol for Point Graphs:* select *2 (a blue diamond).* The list of symbols available for points is a reflection of the toolbox. See tutorial Lesson 4 for more information on setting up symbols in the toolbox.

b. For *Size Override* select *1.00*. Use this option to override the schedule's default symbol size for just symbols in the DataGraph.

The schedule's default ***Symbol Size*** option is found on the **Format** tab in the **Frame, Highlights** section.

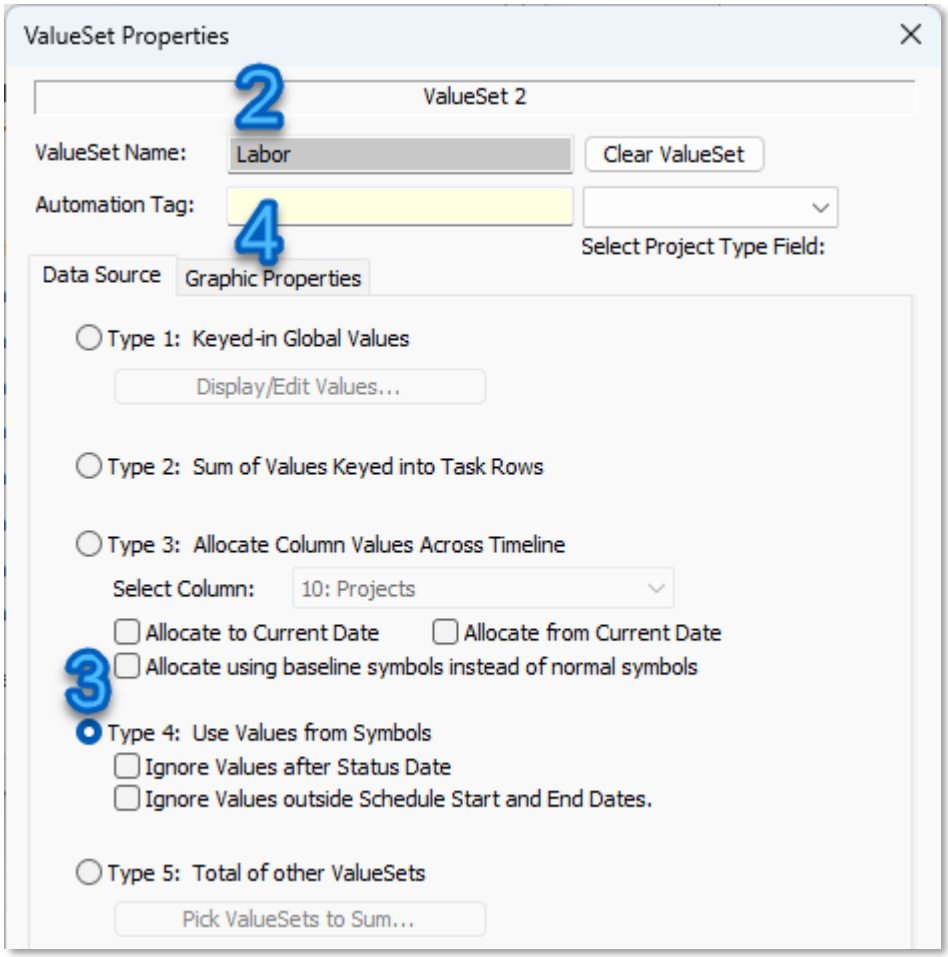
8. Click *OK* to return to the Create or Edit ValueSets dialog box (keep this dialog box open for the next set of instructions.)

Create 2 Type 4: Use Values from Symbols Valueset (continued)

Create the Labor ValueSet

1. Click the *Create/Edit button* to the left of 2: No Name Assigned. The ValueSet Properties dialog box displays.



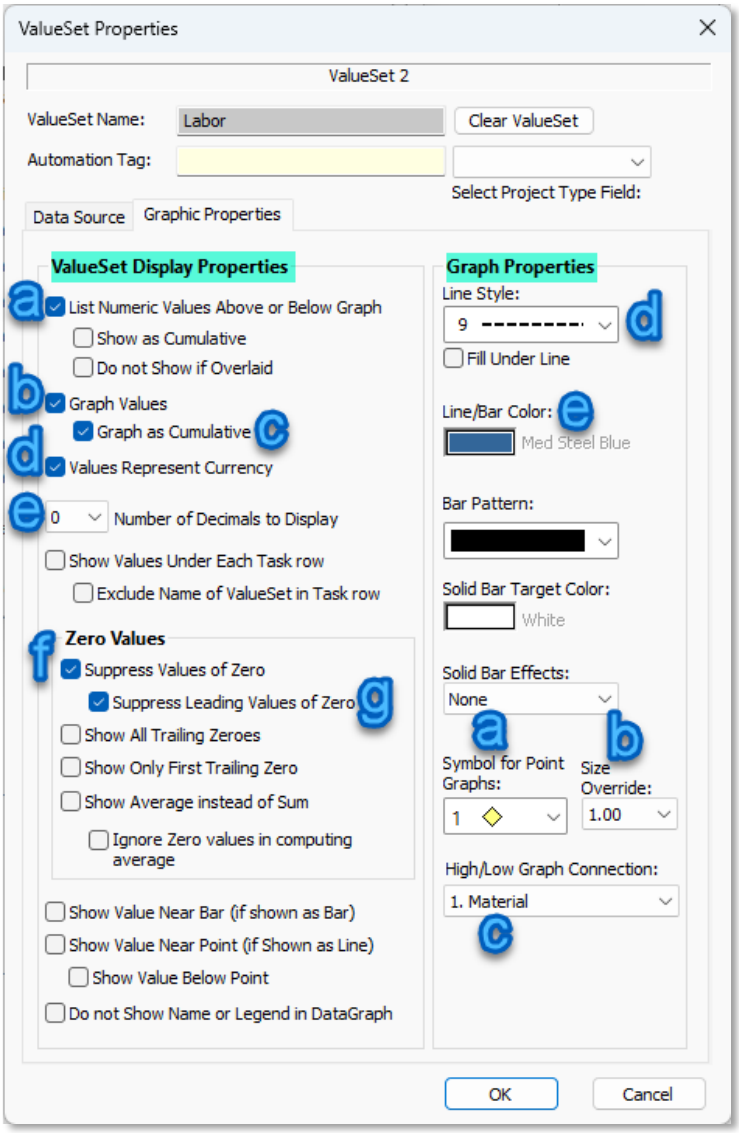


2. For ValueSet Name enter *Labor*.
3. Under the Data Source tab, choose *Type 4: Use Values from Symbols* as the ValueSet type.
4. Click the *Graphic Properties tab* to set the ValueSet Display Properties and Graph Properties. Continue to next page to see selections to make.

Create 2 Type 4: Use Values from Symbols Valueset (continued)

Set properties for the Labor ValueSet

ValueSet Properties dialog Graphic Properties tab



UNDER ValueSet Display Properties

a. ☑List Numeric Values above or Below Graph to have numeric ValueSet values display in each time increment above the graph for Labor.

b. ☑*Graph Values* to have Labor ValueSet values graph as bars, lines, or points in the DataGraph.

c. ☑*Graph as Cumulative* to have Materials ValueSet values add together to create the graph.

d. ☑*Values Represent Currency* and the $ will display on all values for the Labor ValueSet in the DataGraph.

e. Select *0* for *Number of Decimals to Display.* Numbers will be shown as whole numbers.

f. ☑*Suppress Values of Zero* to have zeros not be listed or graphed.

g. ☑*Suppress Leading Values of Zero* to have graph not start at zero and not list a starting zero.

UNDER Graphic Properties

a. Labor ValueSet values are going to be graphed as points (symbols). Under *Symbol for Point Graphs:* select *1 a yellow diamond*. The list of symbols available for points is based on the toolbox. See tutorial Lesson 4 for more information on setting up symbols in the toolbox.

b. For *Size Override* select *1.00*. This option overrides the schedule's default symbol size for symbols in the DataGraph.

c. Under High/Low Graph Connection select *Materials* to have a line connect Labor and Materials points.

The schedule's default ***Symbol Size*** option is found on the **Format** tab in the **Frame, Highlights** section.

d. Select a *Line Style* of *9 (dashed line)* for the line that connects the Labor and Materials points.

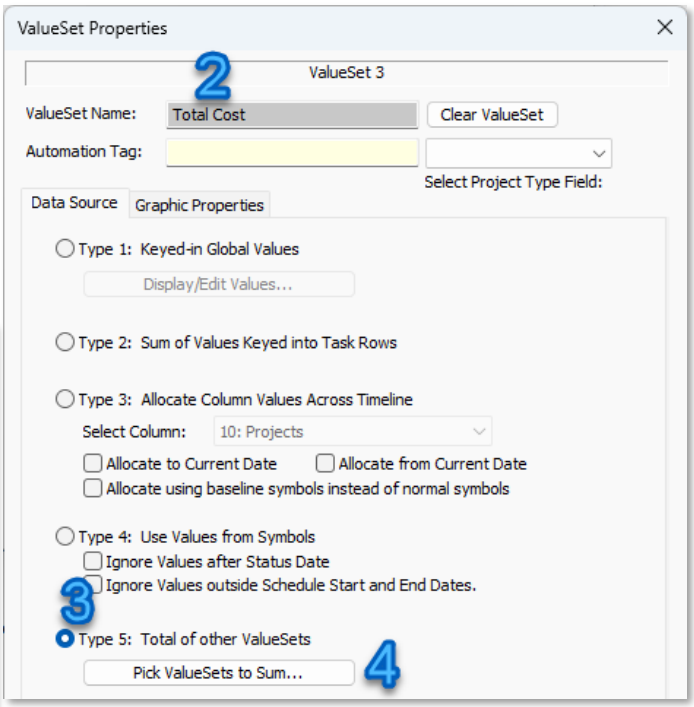
e. Select *Line/Bar Color* of *Medium blue* to color the line between the Labor and Materials points.

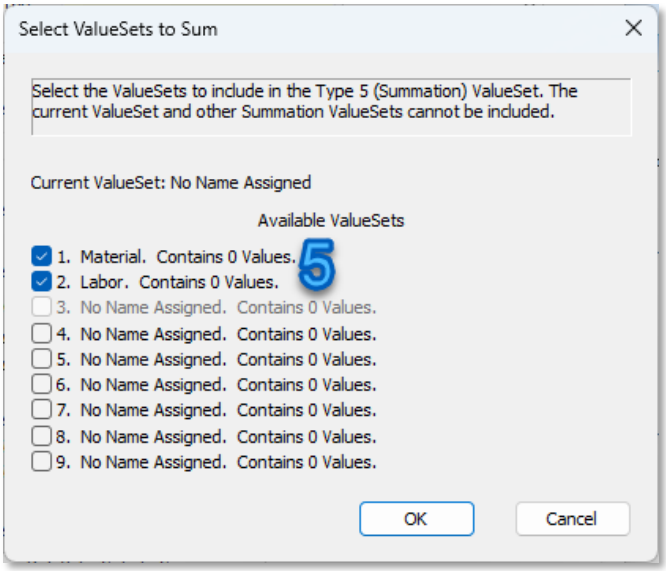
5. Click *OK* to return to the Create or Edit ValueSets dialog box (keep this dialog box open for the next set of instructions.)

Create a Type 5 ValueSet: Total of other ValueSets



1. Click the *Create/Edit* button to the left of *3: No Name Assigned* to reach the ValueSet Properties dialog box.
2. For ValueSet Name enter *Total Cost*.
3. Under the Data Source tab, choose *Type 5: Total of other Values Sets* as the ValueSet type.
4. Click the *Pick ValueSets to Sum button*. The Select ValueSets to Sum dialog box displays.
5. In the Select ValueSets to Sum dialog box ☑ *1. Material* and ☑ *2. Labor*.





6. Click *OK* to get back to the ValueSet Properties dialog. (Continue to next page.)

Create a Type 5: Total of other ValueSets (continued)

7. Click the *Graphic Properties* tab to set the display and graph properties for a ValueSet.

   For ValueSet Display Properties

   a. ☑ *Graph Values* to have Labor ValueSet values graph as bars, lines, or points in the DataGraph.

   b. ☑ *Graph as Cumulative* to have Materials ValueSet values add together to create the graph.

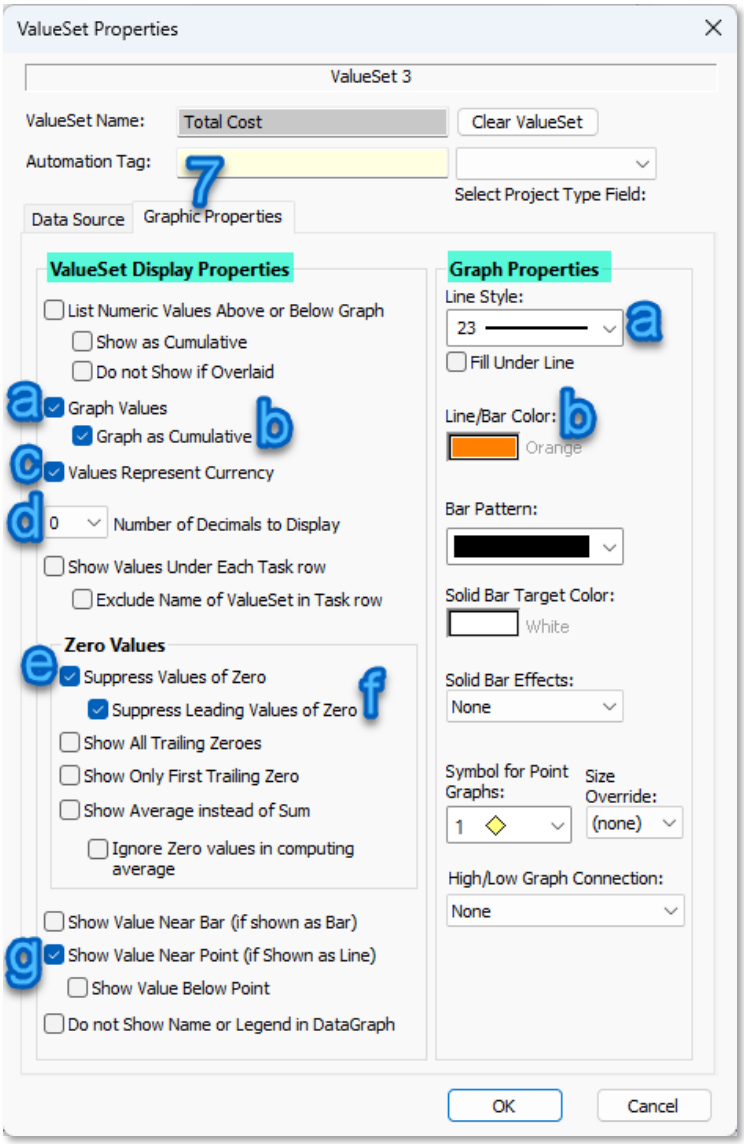
   c. ☑ *Values Represent Currency* and the $ will display on all values for the Labor ValueSet in the Data-Graph

   d. Select *0* for *Number of Decimals to Display.* All Values for the Labor ValueSet will not show any decimal values.

   e. ☑ *Suppress Values of Zero* to have the graph leave out all values of zero

   f. ☑ *Suppress Leading Values of Zero* to have the graph leave out leading values of zero.

   g. Total Cost is going to be a line graph, so ☑ *Show Value Near Point (if shown as Line)* to have the Total Cost ValueSet values display at weekly time increments along the graphed line.



   UNDER Graphic Properties

   a. Since Total Cost will be a line graph select *Line Style 23.*

   b. For *Line/Bar Color* select *orange* for the color of the Total Cost line graph.

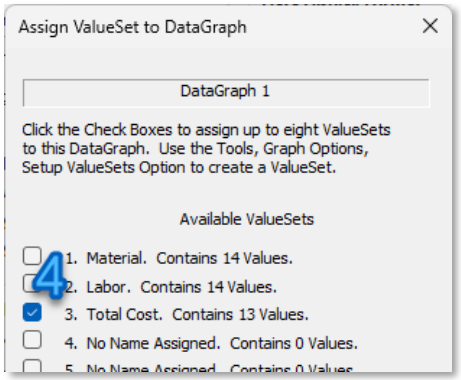
8. Click *OK* to return to the Create or Edit ValueSets dialog box. You now have two Type 4 ValueSets and one Type 5 ValueSet, none of which contains values. Choose *OK* to exit. Nothing visible will be changed on the schedule.

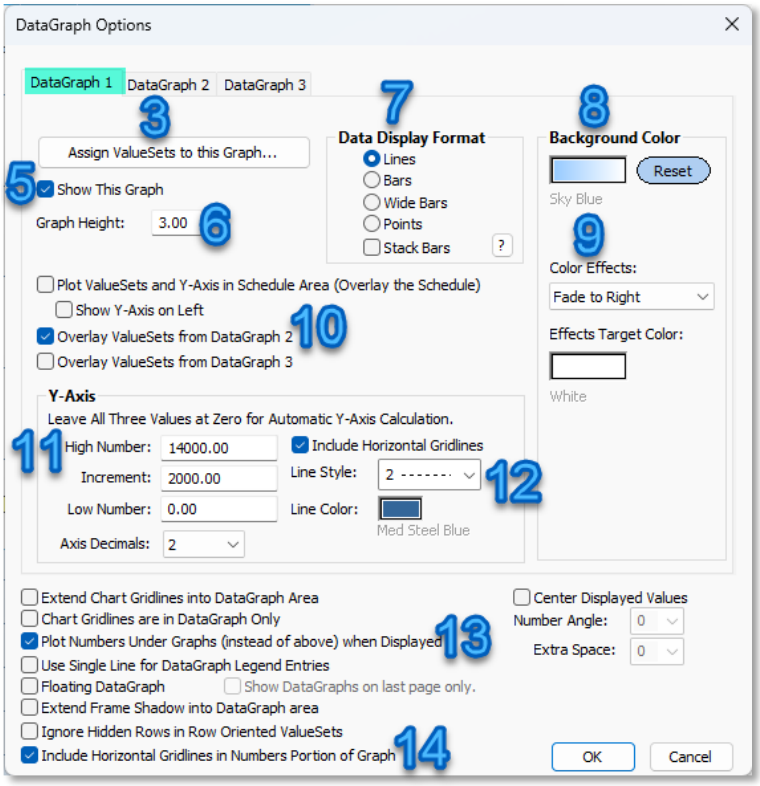
Create two DataGraphs then Overlay DataGraph to show both lines and points

DataGraph 1 will contain the Total Cost ValueSet values graphed as a line while DataGraph 2 will overlay DataGraph 1 and will contain Labor and the Materials ValueSet values graphed as points.

DataGraph 1

1. Select the toolbar *Tools tab*.
2. In the Graph Options section choose *Setup DataGraph*. The DataGraph Options dialog box displays.
3. Under the DataGraph 1 tab click *Assign ValueSets to this Graph* button. The Assign ValueSet to DataGraph dialog displays.
4. ☑ *3. Total Cost*, then click *OK*.



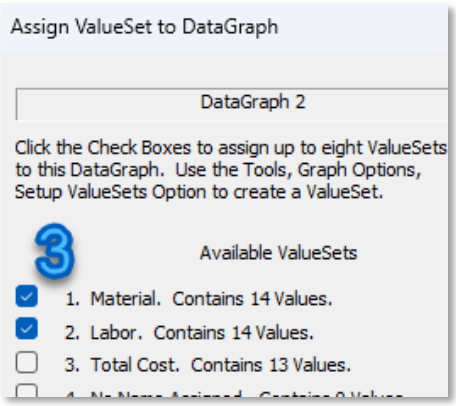


5. ☑ *Show this Graph* to have the DataGraph display on the schedule.
6. Give a *Graph Height of 3.00*. Minimum height is .2
7. Total Cost is to be a line graph therefore under Data Display Format choose *Lines*.
8. For Background Color of the Graph choose *Sky Blue*.
9. For the background Color Effect choose *Fade to Right*.
10. To combine two graphs of different Display Formats (in this tutorial, line for Total Cost and points for Labor and Materials) ☑ *Overlay ValueSets from DataGraph 2.*
11. Under Y-Axis you can select values for High Number, Increment and Low Number. These values build the Y-axis values of the DataGraph. For High Number enter *14000*. For Increment enter *2000*. Leave Low Number at *0*.
12. Under Y-Axis ☑*Include Horizontal Gridlines*. For Line Style select *2*. For Line Color select *Med Steel Blue*.
13. ☑ *Plot Numbers Under Graph (instead of above) when Displayed* because Materials and Labor ValueSets values were set to have the Weekly numeric values displayed. Now the values will display below the DataGraph.
14. ☑ *Include Horizontal Gridlines in Numbers portion of Graph*. (Keep dialog open for further instructions on the next page.)

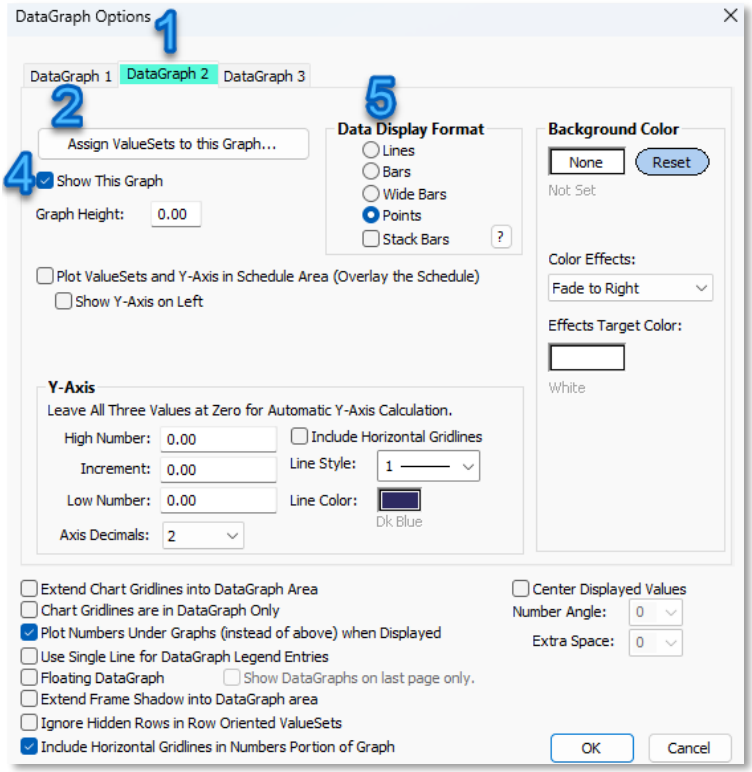
Create 2 DataGraphs then Overlay 1 to display 3 ValueSets on 1 DataGraph (continued)

DataGraph 2

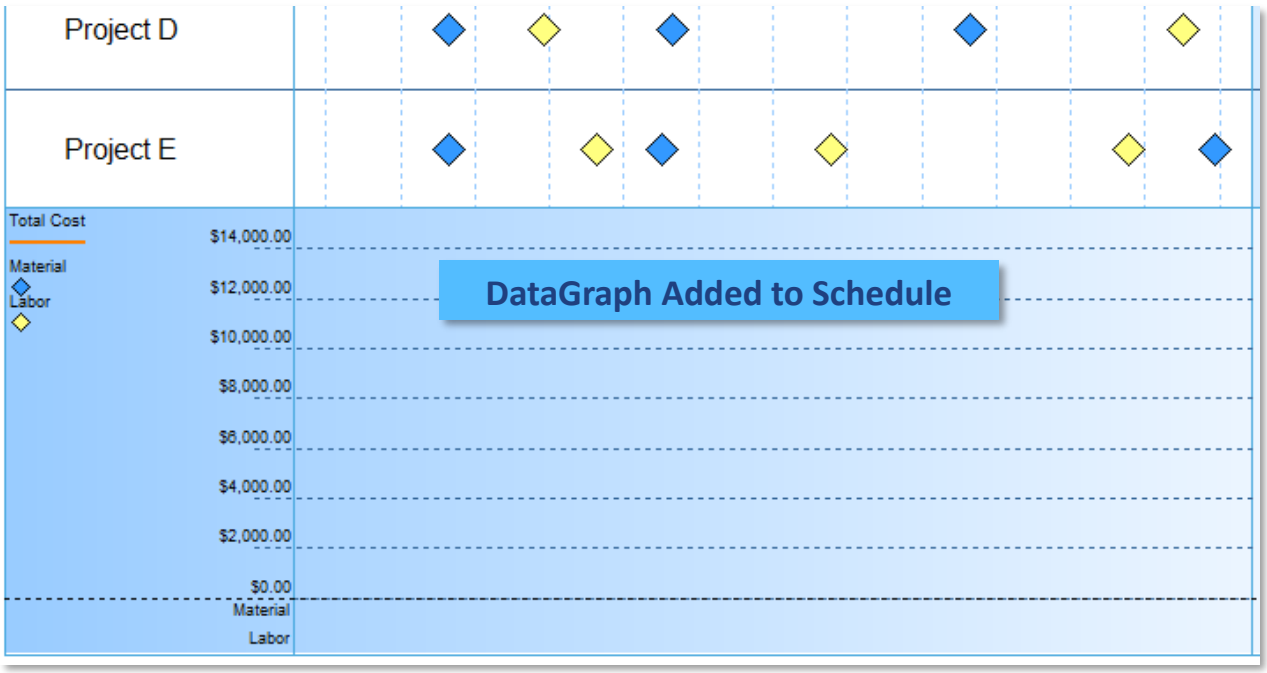
1. Select the *DataGraph 2* tab.
2. Under the DataGraph 2 tab select *Assign ValueSets to this Graph* button. The Assign ValueSet to DataGraph dialog displays.



3. ☑ *1. Material and 2. Labor*, then click *OK*.
4. ☑ *Show this Graph* to have the DataGraph display on the schedule.
5. Material and Labor values are to be points on the DataGraph therefore under Data Display Format choose *Points*.
6. Click *OK* to return to the schedule, the DataGraph will display without any values. Values will be added in the following pages.



No formatting for the DataGraph 2 look needs to be chosen because in DataGraph 1 the option **Overlay ValueSets from DataGraph 2** was selected. Thus the information from ValueSets Material and Labor will be overlayed onto DataGraph 1. Two DataGraphs are being used to distinguished the **Data Display Format,** for Total Costs the data will display as a line, as selected. Material and Labor data will display as points, as selected.

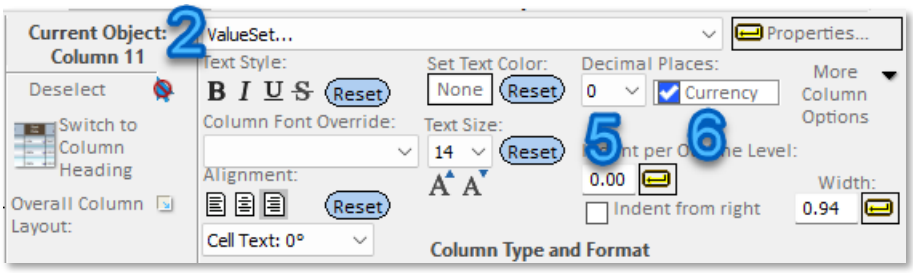


Create the Material ValueSet SmartColumn

ValueSet SmartColumns sum specified ValueSets for each task row. The columns currently on the schedule labeled Material and Labor cost need to be changed to ValueSet SmartColumns and assigned the correct Symbol ValueSet. Then, the ValueSet symbol values will total and populate the column for each task row. Even though the All Projects task row has no symbol values entered, as a summary level task it will eventually populate with the totals of the lower level costs.

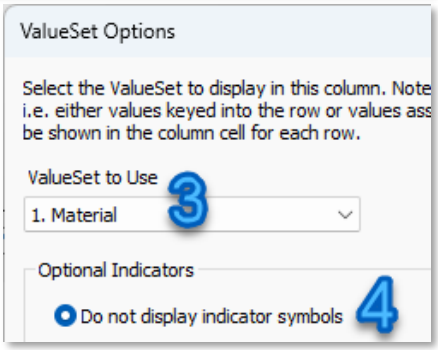
1. Click the *Material Costs* column heading. The toolbar will change to the Selection tab with Current Object: Column Heading. On the left side of the toolbar select *Switch to Column*.

2. In the Column Type and Format section click the *down arrow* in the field showing (none). From the displayed menu choose *ValueSet*. The ValueSet Options dialog box displays.



3. For ValueSet to Use, choose *1. Material*.

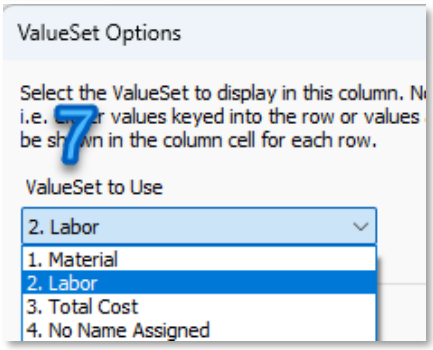
4. Under Optional Indicators select *Do not display indicator symbols*. Select *Ok* to close the dialog.



5. On the toolbar in the Column Type and Format section set the columns values Decimal Places to *0*.

6. ☑ *Currency* to show a $ sign next to each cell value in the column.

7. Now do the same for the Labor Cost column. Select *2. Labor* in the ValueSet Options dialog.



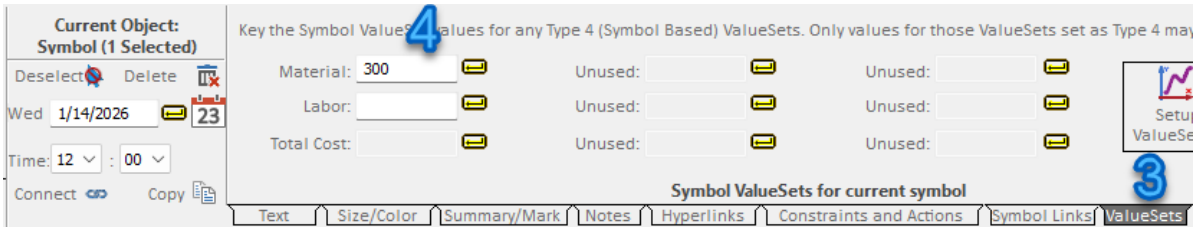
No values will be in the columns yet. Note that the first column cells show $0, reflecting the selections for ValueSet and currency with no decimal point.

Continue to the next page to add the values.

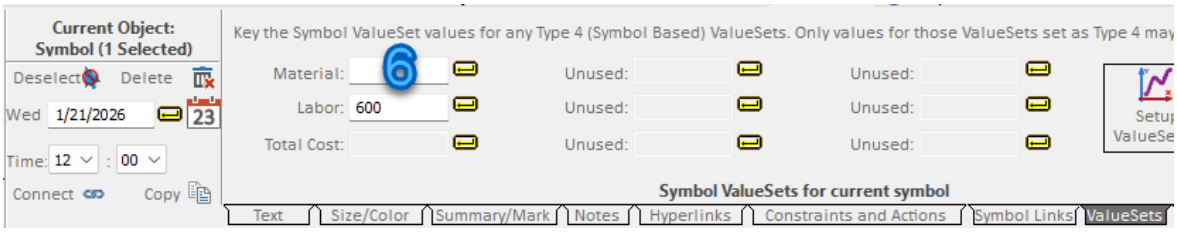
Enter Material and Labor ValueSet values for symbols

For each symbol, you can enter a value for Material ValueSet and/or Labor ValueSet. In this lesson, you will enter Labor cost values on the yellow symbols, and enter Material cost values on the blue symbols, in keeping with the color scheme of the columns and DataGraph.

1. Click ↖ (the toolbox Arrow tool.)
2. On the Project A task row select *the first blue symbol.* The toolbar changes to the Selection tab with Current Object: Symbol



3. At the bottom of the toolbar choose the *ValueSets tab*.
4. In the Material slot enter *300* as the value for this symbol, press the *apply button*.
5. On the Project A task row select *the next symbol which is yellow*. You will not have to reselect the ValueSets tab as it will stay active.
6. In the Labor slot enter *600* as the value for this symbol, press the *apply button*.



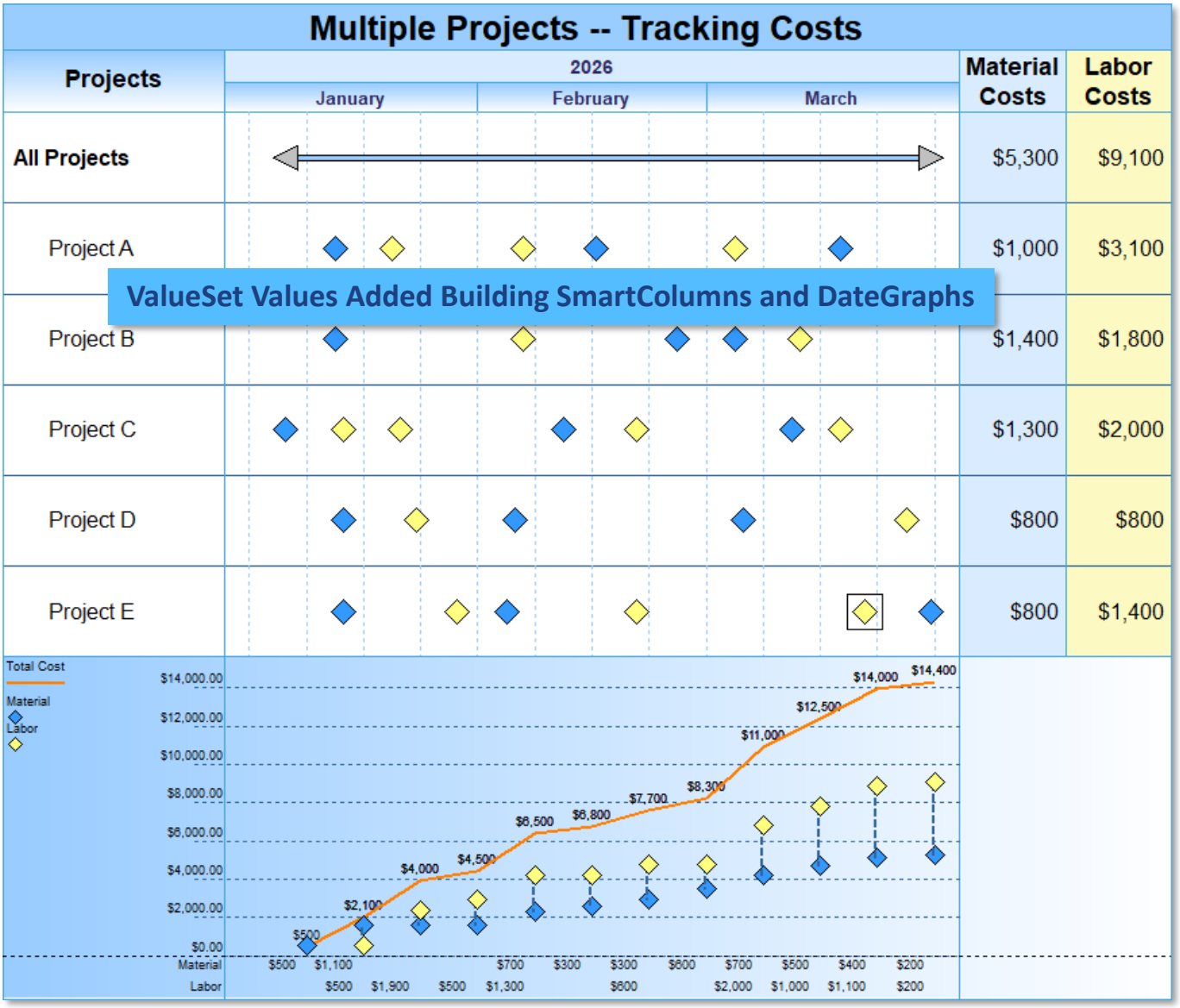
7. Continue adding values using the matrix below. Enter Material cost values on the blue symbols. Enter Labor cost values on the yellow symbols. IMPORTANT, after entering a value choose the *apply button*.

As each value is entered the DataGraph and the column values change. See the result on the next page.

Project A	Project B	Project C	Project D	Project E
Materials: 300, 400 **Labor:** 500, 2000	**Materials:** 300, 600, 500 **Labor:** 800, 1000	**Materials:** 500, 300, 500 **Labor:** 500, 700, 300, 500	**Materials:** 300, 300, 200 **Labor:** 600, 200	**Materials:** 200, 400, 200 **Labor:** 500, 300, 600

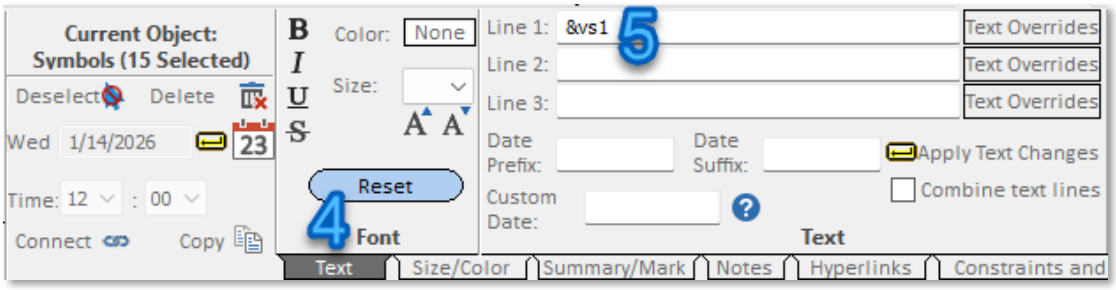
Enter Material and Labor ValueSet values for symbols (continued)

Result

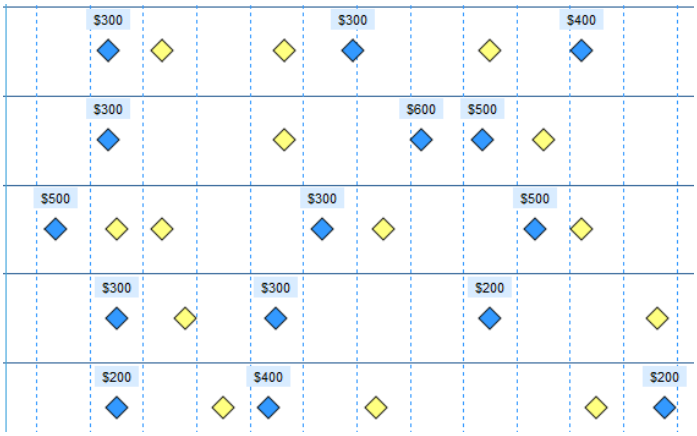


Display Material and Labor values as symbol text using Substitutable Text String

1. Click ↖ (The toolbox *Arrow tool*.)
2. On the Project A task row right-click *the first blue symbol*.
3. On the right click menu pick *Select all Instances of this Symbol Type*. All blue symbols will highlight with a box around them and the toolbar will change to the Selection tab Current Object: Symbols (15 Selected).

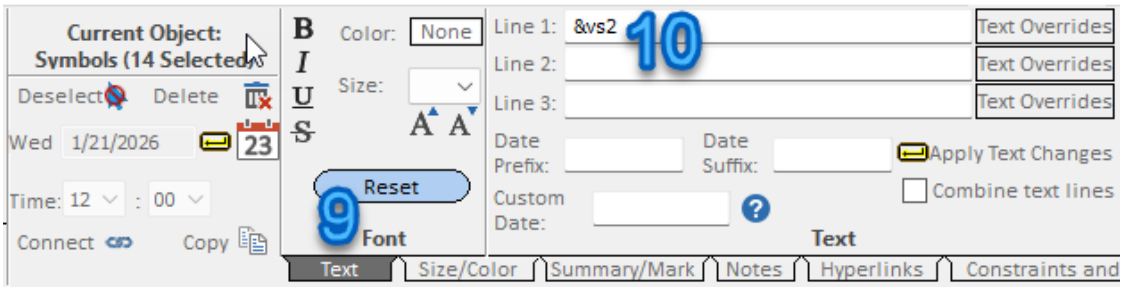


4. At the bottom of the toolbar select the *Text tab*.
5. In the Text section next to Line 1: enter *&vs1*.



&vs1 is a substitutable text string that tells Milestones to add the values for the specified ValueSet (1-9) as symbol text.

6. Then press the  *(the Apply Text Changes button.)* Now all blue symbols will have their Materials ValueSet value displayed as symbol text.
7. On the Project A task row right click *the first yellow symbol*.
8. On the right click menu, pick *Select all Instances of this Symbol Type*. All yellow symbols will highlight with a box around them and the toolbar will change to the Selection tab Current Object: Symbols (14 Selected).



9. At the bottom of the toolbar select the *Text tab*.
10. In the Text  section next to Line 1: enter *&vs2*.
11. Then press *(the Apply Text Changes button.)*

Go to the next page to see the results of yellow symbols displaying their Labor ValueSet value as sym-

Display Material and Labor values as symbol text using Substitutable Text String (continued)

Result

The background look of the symbol text is set for each symbol in the toolbox. Double click the symbol in the toolbox. Select the *Text/Date Properties* tab. See the Text Background Box selections.

