

## Video: “Grouped and stacked bar charts MATLAB” (03:02)

### Video (00:00)

As a final example, I’m going to compare measles, mumps and chicken pox by month. I’ll need some more variables here. `mumpsByMonth` is going to be the sum of mumps over dimension 1. Similarly, `cpByMonth` will be the sum of chickenPox over dimension 1.

### (00:20)

To do a combination bar chart, I have to assemble these vectors into an array with three columns. I use the square brackets and type each variable separated by commas. I save and execute, and look at the result. Unfortunately, `byMonth` isn’t 12x3; it’s 1x36 because the individual vectors were row vectors rather than columns. I’ll use the transpose operator to turn those rows to columns. I save and execute, and now I see `byMonth` is 12x3.

### (01:18)

Now I’m ready to make a bar chart. Let me make a copy of the code, and I’ll update the documentation to keep track of what I’m doing. I’m going to compare the totals of the different diseases. I’ll change the variable that I’m creating the bar chart for to `byMonth`, and I’ll update the title as well. I save and execute, and I see a bar chart that has groups of three bars corresponding to the three columns.

### (02:00)

Let me do a variation on this with stacked bar charts. I’ll make a copy of the code and make a small change. Let me update the documentation, and I’ll add a `stack` parameter to the bar command. I save and execute, and I see that instead of a side-by-side bar chart, I have a stacked bar chart. The individual groups are displayed as a single bar stacked atop each other.

### (02:35)

The stack representation is excellent for showing proportions within a group and the total value of a group. The side-by-side or group version is better for showing the size of each member for the group. Both representations show the same data. Of course to complete the graph we should use the `legend` command to identify the bar color with the data.