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This tutorial covers time series data. Time series data shows a change in the value over time. One important thing to remember is that the horizontal axis, the one going from side to side, should always be the time.

This graph here shows the number of airline departures for a set of given years. So the years are going across the bottom. It starts with 1996 and ends in 2002.

The other axis is what we're measuring. So here is the number of departures, and it's recording it in millions. So with this time series chart, we can see how the things are changing over time. We can see that it's increasing a lot, that there's a strong dip down between 2000 and 2001, and that after that it starts to pick up again.

With a times series chart, it can help us to show information much better than other visual representations can. We can start to try to draw conclusions or try to think about why there would be this dip here or why it shot up so rapidly between 1996 and 1997.

This time series chart shows two different series together. In the blue line, we have XM Radio. And in the red line, we have Sirius Satellite Radio. Now, the millions of subscribers are recorded on the vertical axis. And the horizontal axis shows time.

This time, time has broken down more finely. We're looking at quarters. Because this is talking about a business and how many subscribers, it's easy to find information by fiscal quarter.

So we can see here that they both start off pretty similarly. And then quarter 4 of 2002, they start to diverge. And then they're pretty spread apart. Then they get wider apart. And then they come back together.

By looking at two lines together on one time series chart, we can make comparisons between how XM did and Sirius did and start to talk about that. Another thing that can happen is people can try to extrapolate data backwards and forwards on a time series chart. So if we look down here, the actual data is in the blue.

So this part right here that I just circled is the only part that we have definitive data for. The black is academic estimates. So going backwards, they're trying to make estimates about what the population was from year 500 up to probably about 1800. And then we can only know information up to when our last collection was done, so around the 2000. After that, it's all projections.

So these different lines here coming off 2000 show potential things that could happen in a time series. There could be high growth, which is what the red line shows, medium growth, which is what the yellow line shows, or low growth, which is what the green line shows. Now, when reading a time series diagram, it's important to note whether or not it's actual collected information or projections. The chart should note when it's a projection or when it switches from actual to projected information.

This has been your tutorial on time series charts.