

## **Run Chart**

**A run chart** is a graph that shows plotted points connected by a line.

### **Use a run chart to....**

Identify trends in a process, to monitor progress, and to show variation in a process over time.

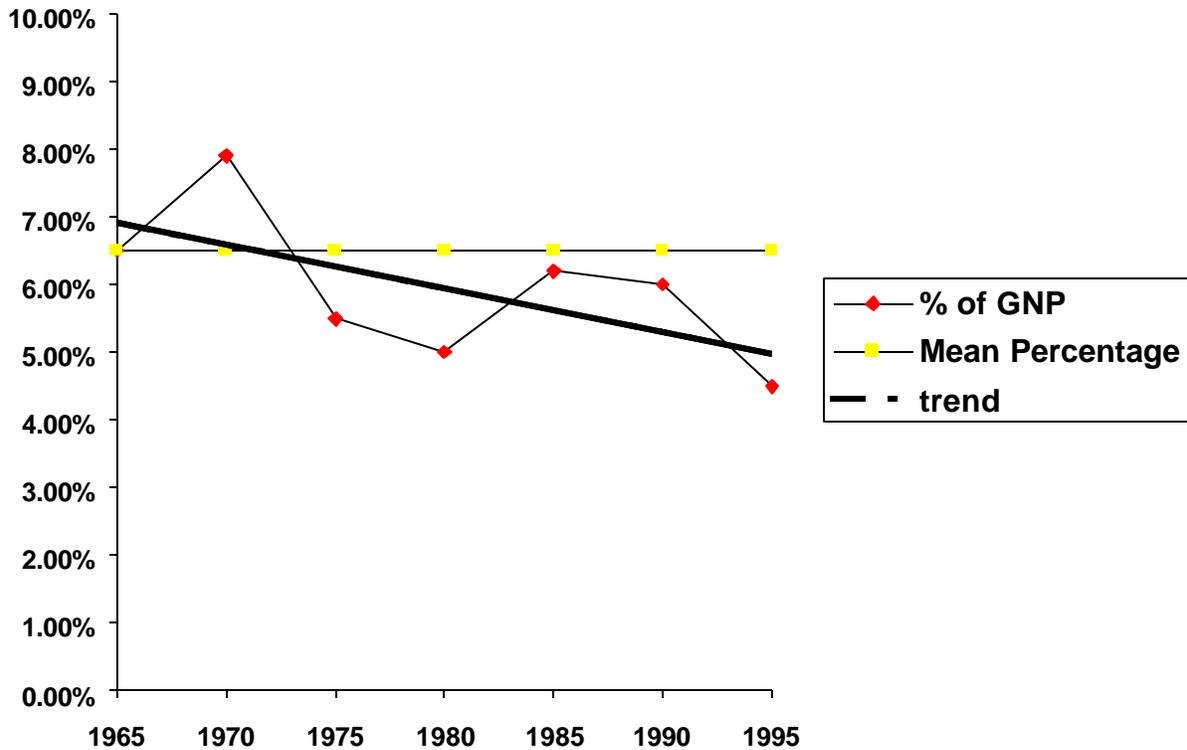
Focus attention on the important changes in a process.

Track information over time in order to show a trend or make a prediction on future trends based on historical performance.

### **How to design a run chart...**

1. Collect data (20-25 data points) to show a meaningful pattern of performance.
2. Create a graph with an x (horizontal) and y (vertical) axis. On the x-axis, draw the time scale. On the y-axis, draw the scale of the variable you are measuring. Be sure to label each axis, and draw the scales proportionately to the amount of data you have collected.
3. Plot the data points (X, Y) = (time, variable). Draw a line from one data point to the next. You may average the variable data and draw a horizontal line at this point to show the average. You may also draw a "line of best fit" between the data points to show the trend line.
4. When interpreting the data shown on the run chart, it is important to not see each variation from the average (mean) as a problem with the process. All processes have some variability. The determination should be made depending how many times the variation occurs and how far from the mean they are. You would have to decide what standards you are trying to meet, and whether or not there is too much variation from those standards.

**Example.** The Department of Defense Budget as a Percentage of the Gross Domestic Product from 1965-1995.



This run chart shows the average (mean) of the variable data (% of GNP) and the trend line—it's gone down over the years from 1965 to 1995.

**Your Example:** Choose a process in your organization that has variable data over time. How would you create a run chart that shows the trend, if there is one, or the variability of the process?