This study analyzes the ex-dividend stock price behavior in the Nairobi Stock Exchange to see if the stock prices change on the ex-dividend day, in which direction and by what magnitude. The sample data covers stock prices of the twenty (20) companies which constituted the NSE 20 share index as at September, 2010 for the period January 2003 to September 2010. To answer the research questions: do the stock prices change on the ex-dividend day in the Nairobi Stock Exchange? And if so, in which direction and magnitude? The study examined the stock prices on cum-dividend day and ex-dividend day and compared the two to establish whether they were equal or not. The results showed that the prices on exdividend day change. According to the findings, the stock prices generally drop on ex dividend day. The observed values of the ex-dividend day prices were also compared with the theoretical values to see which values are greater and we noted that on average the observed exdividend values were higher than the expected or theoretical values. An indication that the stock prices on the ex-dividend fall by less than the dividend paid. The researcher noted that the conclusion drawn from the study were subject to limitations such as the sample size.