

## Reading Chart Data

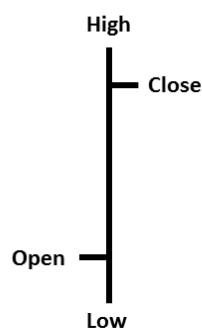
The x-axis of a chart represents time and the y-axis represents price. Every chart has a type (bar, candlesticks or line) and a period/timeframe (5min, 10min, 30min, 1hour etc). Each data point on the chart represents price information within the chart period.



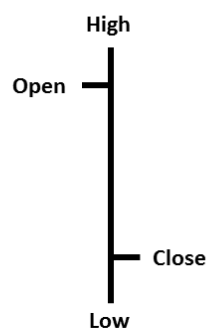
Picture 1: Candle stick chart with a 1 hour timeframe.

## Type of Charts

### 1. Bar chart



Up Bar



Down Bar

Imagine that the time now is 6.15pm.

**Open Price:** Price at the start of the period (Eg. Open price of a 30min bar at 4.15pm is the price at 4pm).

**Closing Price:** Price at the end of the period (Eg. Closing price of a 30min bar at 2.45pm is the price right before 3pm).

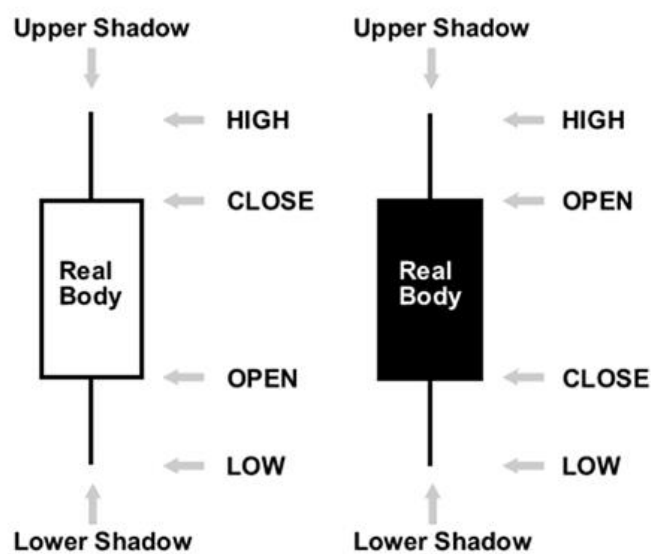
**Closing Price (again):** Price at the end of the period (Eg. Closing price of a 30min bar at 6.15pm is the price at 6.15pm – since it is now 6.15pm and the price at 6.30pm cannot be known).

**High Price:** Highest price within the period (Eg. Highest price of a 15min bar at 1.55am is the highest price reached between 1.45am (inclusive) to 2am).

**Low Price:** Lowest price within the period (Eg. Lowest price of a 4hr bar at 11am is the Lowest price reached between 8pm (inclusive) to 12am).

An up bar is shown when the price rose within that period (i.e. Opening price is lower than closing price), vice versa for a down bar.

## 2. Candlesticks



The left candle is an up candle (Open Price < Closing Price) and the right candle is a down candle (Closing Price < Opening Price). Shadows are also known as wicks.

## 3. A **Line chart** connects all the closing price of every data point with a line.

# Introducing your first Indicator

## The Simple Moving Average (SMA)

The Simple Moving Average smooths the price data to form a trend following indicator. They do not predict price direction, but rather define the current direction with a lag. Moving averages lag because they are based on past prices. Despite this lag, moving averages help smooth price action and filter out the noise.



Picture 2: Red Line indicates an SMA of 20 periods.

## Simple Moving Average Calculation<sup>1</sup>

**A simple moving average is formed by computing the average price of a security over a specific number of periods.** Most moving averages are based on closing prices. A 5-day simple moving average is the five day sum of closing prices divided by five. As its name implies, a moving average is an average that moves. Old data is dropped as new data comes available. This causes the average to move along the time scale. Below is an example of a 5-day moving average evolving over three days.

Daily Closing Prices: 11,12,13,14,15,16,17

First day of 5-day SMA:  $(11 + 12 + 13 + 14 + 15) / 5 = 13$

Second day of 5-day SMA:  $(12 + 13 + 14 + 15 + 16) / 5 = 14$

Third day of 5-day SMA:  $(13 + 14 + 15 + 16 + 17) / 5 = 15$

<sup>1</sup> Source: [http://stockcharts.com/school/doku.php?id=chart\\_school:technical\\_indicators:moving\\_averages](http://stockcharts.com/school/doku.php?id=chart_school:technical_indicators:moving_averages)

The first day of the moving average simply covers the last five days. The second day of the moving average drops the first data point (11) and adds the new data point (16). The third day of the moving average continues by dropping the first data point (12) and adding the new data point (17). In the example above, prices gradually increase from 11 to 17 over a total of seven days. Notice that the moving average also rises from 13 to 15 over a three day calculation period. Also notice that each moving average value is just below the last price. For example, the moving average for day one equals 13 and the last price is 15. Prices the prior four days were lower and this causes the moving average to lag.

## **Exiting a position**

### **Profit-Taking Exits**

This occurs when we close a position for a profit.

### **Profit-Taking Level**

This is the price level where we plan to close our position for a profit. (Note: 1) When someone asks "What is your Take-Profit?" They meant "What is your Profit-Taking Level?" 2) A position may not need to have a Profit-Taking Level. The position will then be closed based on an exit rule.)

### **Stops**

This occurs when we close a position for a loss.

### **Stop Level**

This is the price level where we plan to close our position for a loss. (Note: 1) When someone asks "What is your stop?" They meant "What is your Stop Level?" 2) A position may not need to have a Stop Level. The position will then be closed based on an exit rule.)

### **Trailing Stops<sup>2</sup>**

Trailing Stops are stop orders that are set at a defined percentage/price away from a security's current market price. A trailing stop for a long position would be set below the security's current market price; for a short position, it would be set above the current price. A trailing stop is designed to protect gains by enabling a trade to remain open and continue to profit as long as the price is moving in the right direction, but closing the trade if the price changes direction by a specified percentage.

For more information: <http://www.investopedia.com/terms/t/trailingstop.asp>

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