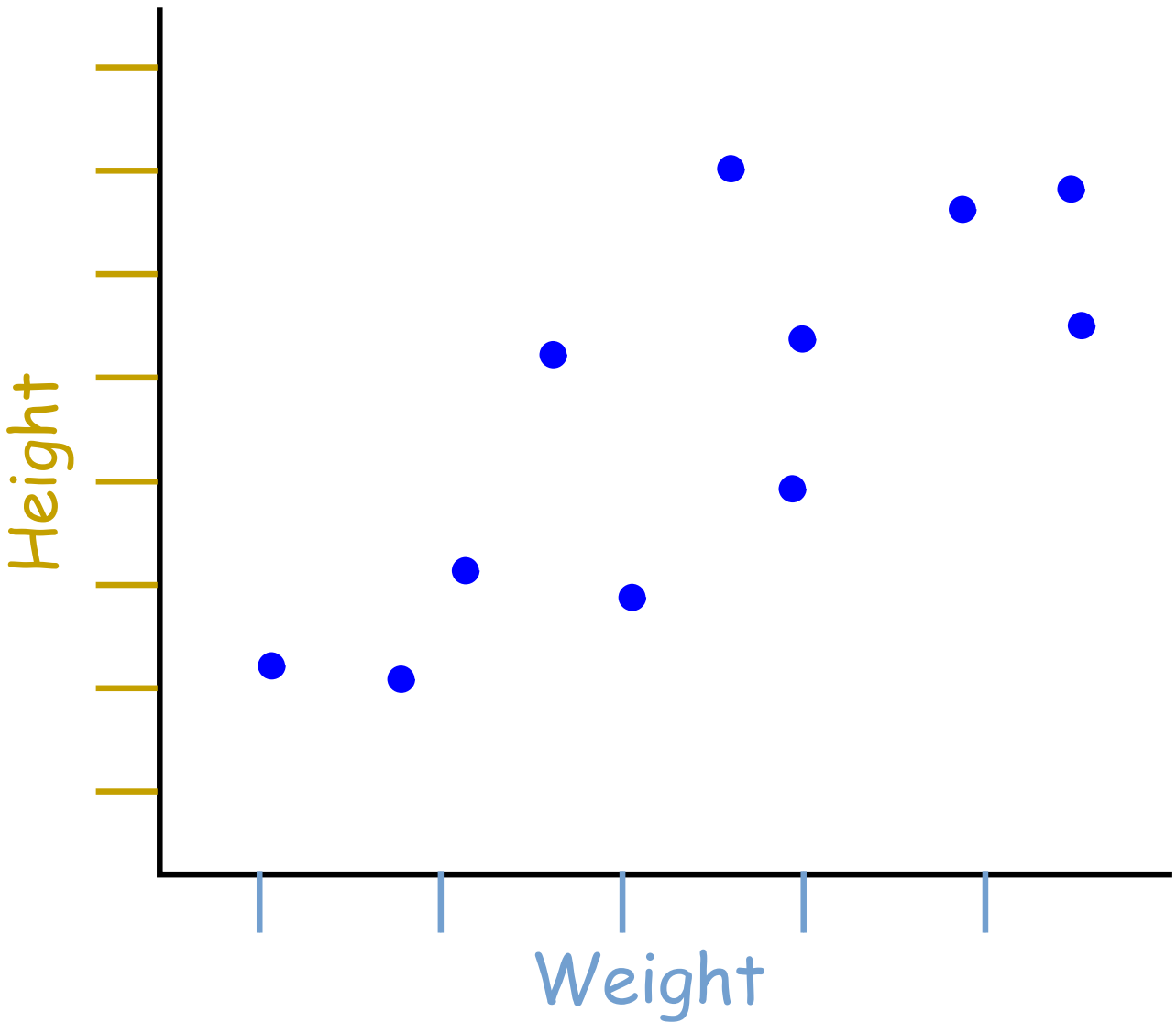
https://www.mathsisfun.com/data/scatter-xy-plots.html

Scatter Plots

A Scatter Plot, which is also called an X-Y Plot, has points that show the relationship between two sets of data, which are plotted using Cartesian (x,y) Coordinates.

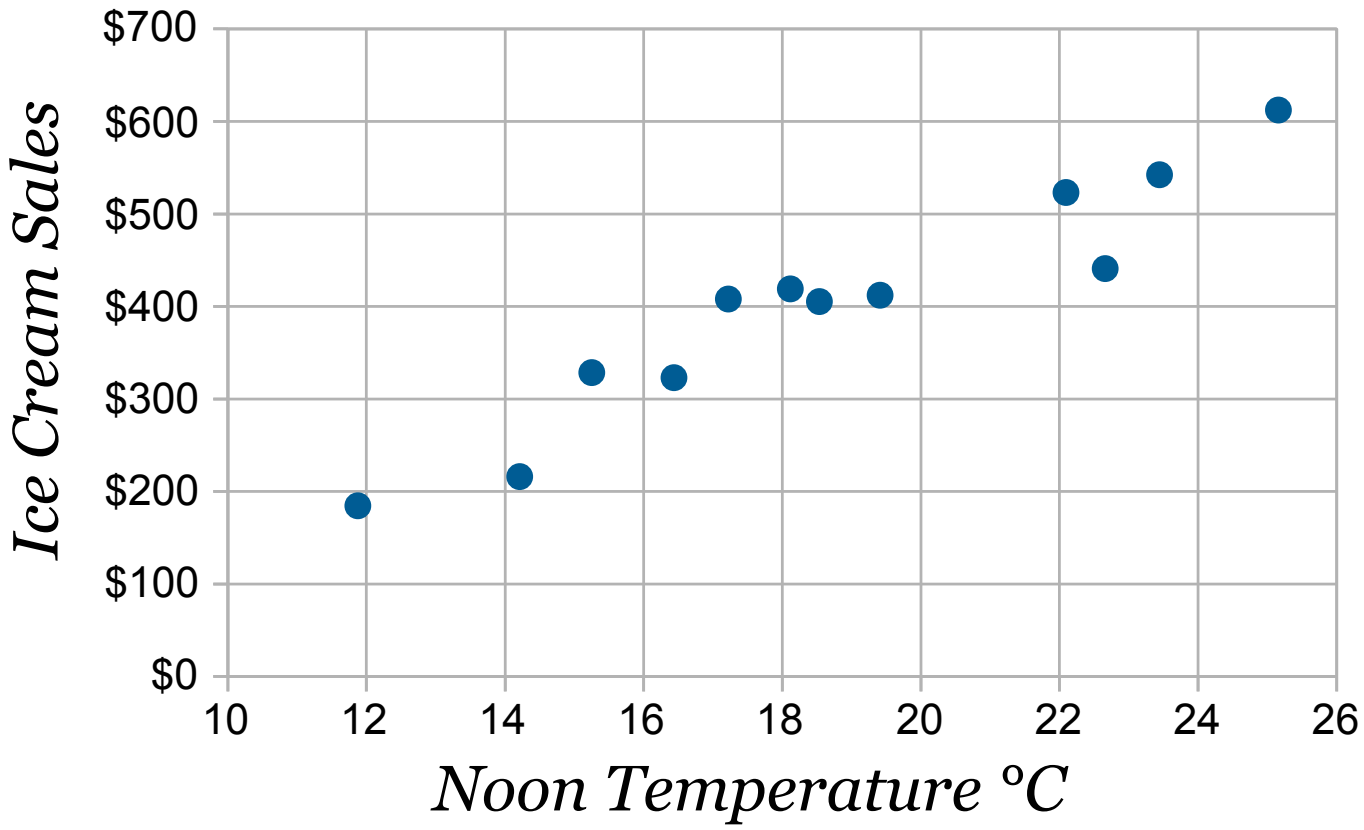
In this example, each dot shows one person's weight versus their height.



Example: An ice cream shop keeps track of each day's noon temperature and how much ice cream they sell that day. Here are data for 12 days:

Temperature °C	Ice Cream Sales
14.2°	$215
16.4°	$325
11.9°	$185
15.2°	$332
18.5°	$406
22.1°	$522
19.4°	$412
25.1°	$614
23.4°	$544
18.1°	$421
22.6°	$445
17.2°	$408

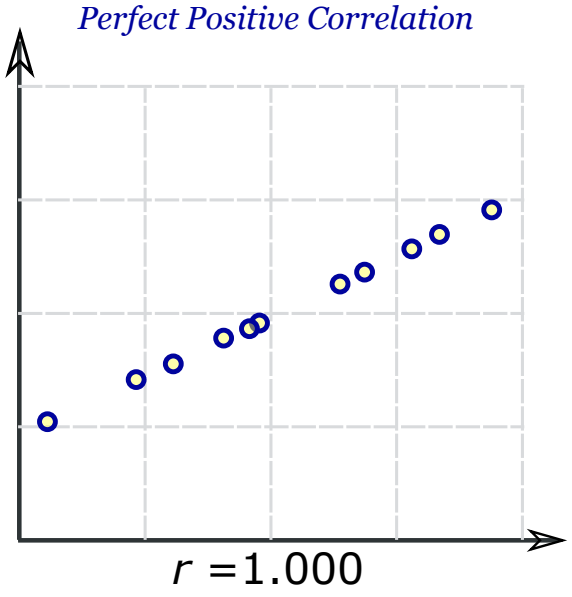
Here are the same data graphed as a Scatter Plot:



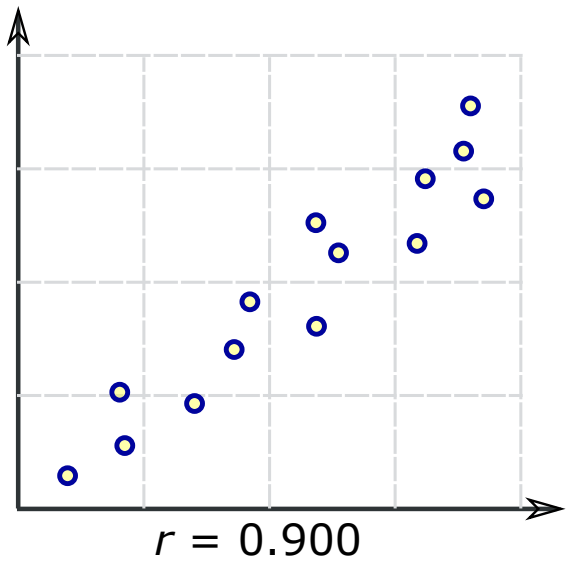
The Scatter Plot makes it easier to see that **warmer weather is related to more ice cream sales**, but the relationship is not perfect.

- A correlation is **Positive** when the values **INCREASE** together.
- A correlation is **Negative** when one value **DECREASES** as the other increases.

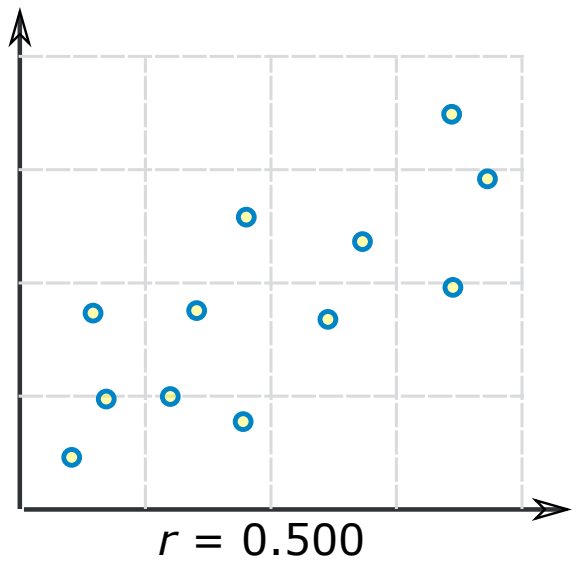
Perfect Positive Correlation



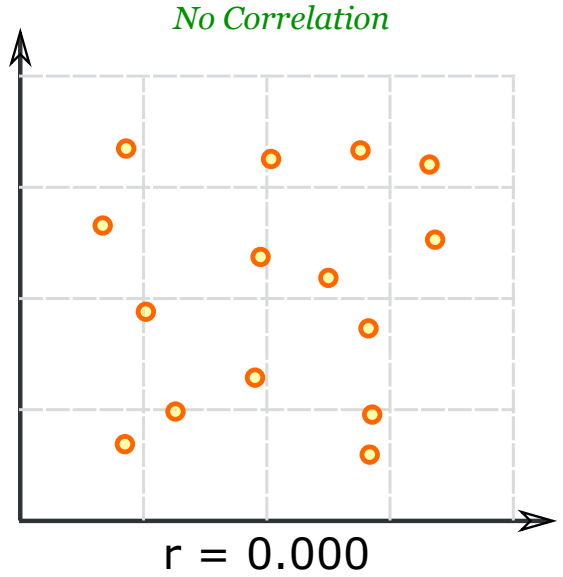
High Positive Correlation



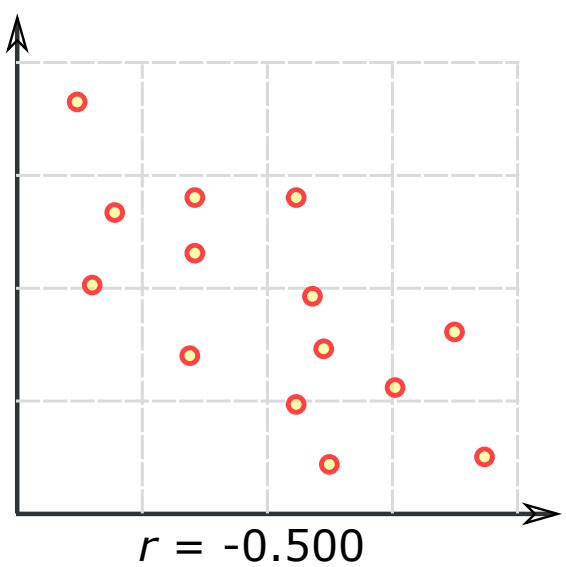
Low Positive Correlation



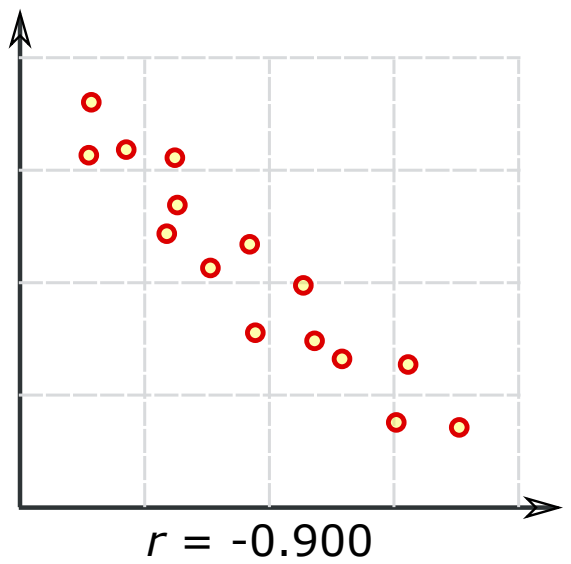
No Correlation



Low Negative Correlation



High Negative Correlation



Perfect Negative Correlation