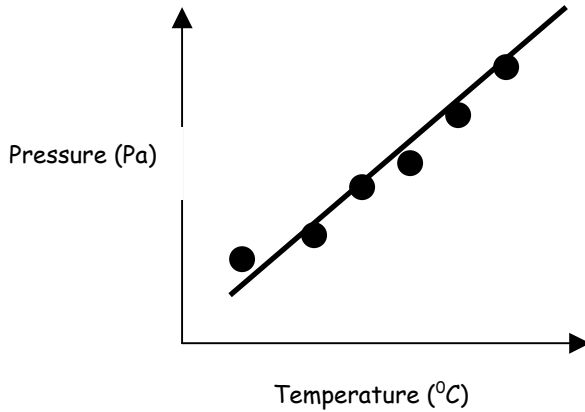
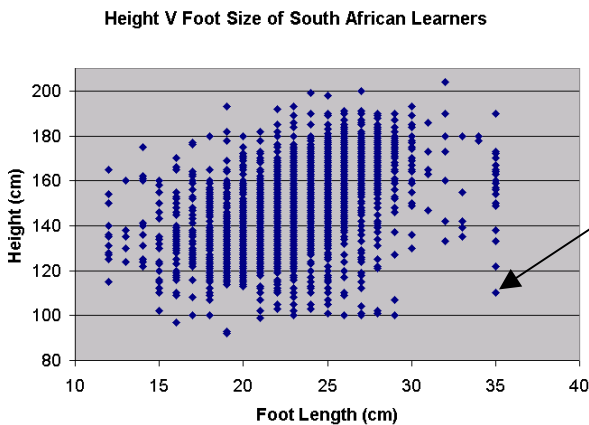
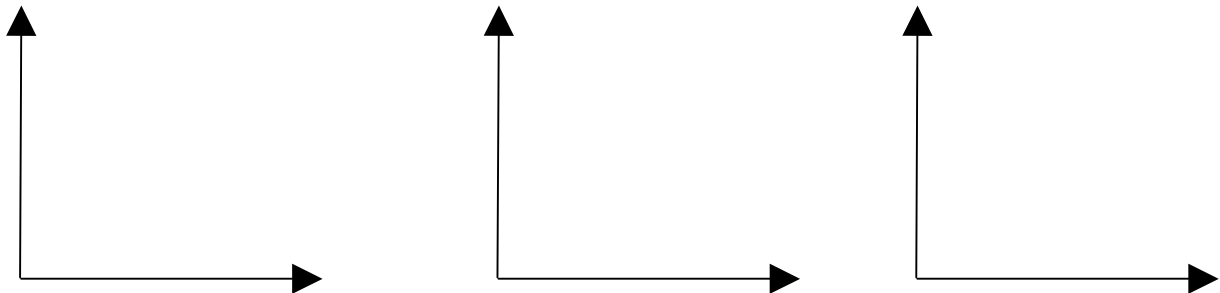


Relationships



Sometimes we like to compare two variables (things that can change), to see how they relate to each other. This can allow us to make predictions about what might happen in a situation. Scientists often do experiments and plot graphs to look for these relationships.

The graph above shows how temperature and pressure are related in a given situation. Points have been plotted and a trendline (or line of best fit) added. Discuss what a trendline does and how you think they are plotted. We can make a statement: **As the temperature increases so does the pressure.** We call this a positive correlation. What do you think the gradient of the graph represents? On the axes below sketch some graphs that show different relationships and label the axes with the variables.



A sample of data from *CensusAtSchool* shows the relationship between foot length and height. Why do think the data is so widely spread? Describe this relationship. Where do you think the trendline should go? What do think about the point shown by the arrow? We call data that really doesn't fit the trend an **outlier**. Mark some other outliers. Why do you think outliers occur? Repeat this exercise for your class. Does your graph look the same?