 Mobile phone battery life activity

Aim

Investigate the charge, as a percentage, of your mobile phone over time to predict its battery life.

Task

Starting with a fully-charged mobile phone, students are to record the charge of the phone at regular intervals over many days, excluding night time, in a table similar to the one below:

| Time after start, t (hours) | Percentage charge, C (%) |
| --- | --- |
| 0 | 100% |
| 2 |  |
| 4 |  |
| 6 |  |

Use the data to investigate whether there is a correlation between the variables t and C:

1. Determine the independent variable.
2. Plot a scatterplot of the data with the independent variable on the x-axis and the dependent variable on the y-axis.
3. Applying methods of line of best fit or calculating a regression model, predict when the charge will become 0% and hence use it to estimate the battery life of your mobile phone.

Extension – The battery life is dependent on many different factors, like types of usage. By examining the variation of the time data off the model, predict a range of values for the battery life that will be 95% accurate.