Writing an Abstract

Here's what the Baylor University freshmen physics class for scientists & engineers has to say about writing an appropriate abstract:

II. Abstract: The purpose of an abstract in a scientific paper is to help a reader decide if your paper is of interest to him/her. (This section is the executive summary in a corporation or government report; it is often the only section that a manager reads.) The abstract should be able to stand by itself, and it should be brief. Generally, it consists of three parts which answer these questions:

- ✓ What did you do? – A statement of the purpose of the experiment, a concise description of the experiment and physics principles investigated.
- ✓ What were your results? – Highlight the most significant results of the experiment.
- ✓ What do these results tell you? – Depending on the type of experiment, this is conclusions and implications of the results or it may be lessons learned form the experiment.

Write the abstract after all the other sections are completed. (You need to know everything in the report before you can write a summary of it.)

Examples:

Abstract #1: Two experiments were performed to find the spring constant of a steel spring. The spring constant was determined statically, by measuring its elongation when subjected to loading, and dynamically, by measuring the period of a mass hung from one end and set into vertical oscillation. The resulting values of 2.94 ± 0.01 N/m and 2.98 ± 0.02 N/m, respectively. Our spring's behavior followed Hooke's law to within the limits of accuracy of the two experiments. (76 words)

Alternate Abstract #2: The purpose of this experiment was to measure and compare the spring constant of a steel spring using two different procedures. First we investigated the relationship between the force applied to a spring and the displacement of the spring from its rest length. We hung various masses from the springs, and measured the vertical displacement. We found a spring constant of 2.94 ± 0.01 N/m. Our results confirmed Hooke's Law, Fs = -kx. In the second procedure, we set the spring into vertical oscillation with a suspended mass and measured the period of oscillation. Using this method, we found a spring constant of 2.98 ± 0.02 N/m. Our results verified that the period of oscillation depended on the effective mass of the spring and the period of oscillation. (125 words)