Lab 11: Gravity, Part Two

Thanks to your legendary skill at designing clown launchers, you have recently been hired by a famous Hollywood movie studio to design some special effects. They are going to film a giant meteor crashing into the Earth, but in order to make it look realistic, they have to know an accurate value of the acceleration due to gravity.

For most physics problems, we sometimes use 9.8 or 10 m/s^2 for our g value. This is an approximation. The actual value of g can vary depending on your global latitude, altitude, and the geography of the area. For this stunt, you will need to be able to determine g in several different filming locations, and to alter the safety nets and wires accordingly. In this lab, you've been given the task of measuring g in your lab room in the physics building well enough that you could tell if g changed by 1 percent or less.

Question:

What is g in this room?
How precise is this figure?

Each group in your class has collected some data to determine what g is in the room and how precisely they were able to measure it. You now have several sets of data to work with. Examine the class data set and formulate a quantitative answer to the questions posed.

I. Introduction	**5 min**	**Whole class**
II. Data Analysis	**45 min**	**Groups of 4**
III. Group Presentations	**40 min**	**Groups of 4**
IV. Evaluate the analysis	**20 min**	**Groups of 4**

Turn in your lab report.

> MAJOR GOAL:
> *Combine data sets from different experiments in a meaningful and valid manner to reach a well-supported conclusion.*