Circular Motion and Gravitation Notebook - Scoring Rubric

Your notebook will be collected at the end of class on _____, _____ _____.
The following items should be in your notebook. They should be clearly organized and easy to find. Use an organizational system and label all work. Each lab will be graded separately. Ten Circular Motion and Gravitation lab grades will be entered into the gradebook. An overall notebook grade will be determined based on your use of the notebook as an organized and effective record-keeping tool which documents your engagement in the learning cycle during classtime and labtime.

Name: _____ Period: _____

Item	Score
CG1. Making the Turn Lab ___ Included, labeled and organized all parts of the lab report. ___ Data section includes an organized record of the relevant observations using both words and a diagram. ___ Conclusion/Discussion answers the *question* posed in the Purpose; evidence which supports such a conclusion is cited and discussed.	_____/3 (Lab score)
CG2. Loop the Loop Lab ___ Included, labeled and organized all parts of the lab report. ___ Data section included a clear and accurate observations of the relative strength of the tension force for top and bottom positions along a vertical loop. ___ Conclusion/Discussion accurately answers the *question* posed in the Purpose. ___ Post-lab questions were included and answered accurately and completely; FBDs were properly constructed with labeled forces; work was shown on calculations.	_____/5 (Lab score)
CG3. Race Track Lab ___ Included, labeled and organized all parts of the lab report. ___ Data section includes the instructor's initials indicating a successful completion of the simulation; may include other information. ___ Conclusion/Discussion describes the elements of a successful strategy, explicitly referencing Newton's second law of motion and vector principles; accurately and thoroughly explained how to negotiate a turn.	_____/4 (Lab score)
CG4. The Great Mass Attraction Simulation ___ Included, labeled and organized all parts of the lab report. ___ Data section includes the provided sheet with all questions answered. Vector arrows reflect relative magnitude and direction; data are reasonably accurate; answer to questions are correct. ___ Conclusion/Discussion accurately and thoroughly describes the three variables which effect the gravitational force, including both qualitative and quantitative information.	_____/4 (Lab score)
CG5. Solar System Sports Spreadsheet Study ___ Included, labeled and organized all parts of the lab report. ___ Purpose section includes a succinctly worded statement which clarifies the intention of the study. ___ Description of Study section describes details related to how the study was conducted. Independent and dependent variables are discussed. The procedure used was related to the purpose. ___ Data section identifies the input variables for all trials; units are stated. Reasonable values were used for all inputs. Relevant output variables are clearly stated in an organized fashion. Included a relevant trajectory plot and at least one other plot for each trial. ___ Conclusion/Discussion provides the answer to the question posed in the Purpose. Answer is relevant to the purpose and reasonable. Evidence which supports the conclusions are discussed in a rational manner.	_____/12 (Lab score)

CG6. Satellite Motion Simulation ___ Included, labeled and organized all parts of the lab report. ___ Data section includes provided diagram and questions; answers are complete and accurate; vector arrows are labeled. ___ Conclusion/Discussion thoroughly and accurately describes how the magnitude of the v and the F_{net} change (or don't change) during the course of an orbital path. The direction of these two vectors relative to each other is also discussed. Discussion reveals an intelligent understanding.	_____/5 (Lab score)
CG7. Law of Harmonies Analysis ___ Included, labeled and organized all parts of the lab report. ___ Data section includes the provided table with the last column completed; units are indicated; at least one sample calculation is clearly shown and labeled. ___ Conclusion/Discussion answers the *question* posed in the Purpose and describes the supporting evidence.	_____/3 (Lab score)
CG8. Jupiter's Moons Analysis ___ Included, labeled and organized all parts of the lab report. ___ Data section includes the provided table with the last column completed; units are indicated; at least one sample calculation is clearly shown and labeled. ___ Conclusion/Discussion answers the *question* posed in the Purpose and describes the supporting evidence.	_____/3 (Lab score)
CG9. Mass of Saturn Analysis ___ Included, labeled and organized all parts of the lab report. ___ Data section includes the provided table with the last column completed; at least one sample calculation is clearly shown and labeled; conversion from km and days to kg is clearly demonstrated. ___ Conclusion/Discussion answers the *question* posed in the Purpose and describes the supporting evidence.	_____/4 (Lab score)
CG10. The Mini Drop Lab ___ Included, labeled and organized all parts of the lab report. ___ Data section includes a clear and organized listing of contact force values for the three phases of its fall; units are indicated. ___ Conclusion/Discussion compares the contact force to the object's weight for the three indicated phases of its motion; discussion is clear. Newton's second law is explicitly used to relate the conditions of the motion (at rest, free falling, etc.) to the relative size of the two forces.	_____/4 (Lab score)
CG11. Use of Notebook as a Record-Keeping Tool Ideally, a student would use the notebook to record notes from class lectures, post-lab sections, textbook readings, etc. Answers and discussions of opening questions are provided. The notebook is a record of the involvement of a scientist/student in both class and lab. A blank or even sparsely-used notebook with little evidence of involvement in class is not a sign of a student who has used the notebook to document and record their involvement in class. A diligent student keeps careful records which subsequently become an effective and useful learning tool.	_____/10 (HW score)