1D Kinematics 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. *Auxiliary items* should be taped, glued or stapled into the notebook in the appropriate location; they should not be *hanging loose*. Use an organizational system and label all work. Each lab will be graded separately. Ten 1D Kinematics 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
K1.	**Speedometer Lab** ____ Included, labeled and organized all parts of the lab report. ____ Data section includes a table of data for several trials; column headings and units are shown. Work for one calculation is shown and labeled. Average value is reported using all valid trials; results are reasonably accurate. ____ Conclusion states the speed of the object; units are included.	_____/3 (Lab score)
K2.	**Speedometer Cubed Lab** ____ Included, labeled and organized all parts of the lab report. ____ Data section includes measured and calculated data for each of the three methods of speed measurement. Data is organized and clearly labeled. Work is shown for calculations. Units are stated for all numerical values. ____ Conclusion/Discussion identifies the three different speed values. An error analysis is performed, the accuracy and precision of the three different methods is evaluated; explanations for such judgments are given. Discussion is thorough and reveals understanding.	_____/4 (Lab score)
K3.	**Diagramming Motion Lab** ____ Included, labeled and organized all parts of the lab report. ____ Data section includes dot diagrams for the three types of motion; diagrams are labeled and communicates the concept; diagrams are reasonably accurate. ____ Conclusion/Discussion describes the diagrams in words and relates the diagram to the proper motion; the distinguishing features of each diagram are identified in the discussion.	_____/3 (Lab score)
K4.	**Position-Time Graphs Lab** ____ Included, labeled and organized all parts of the lab report. ____ Data section includes labeled and titled graphs which communicate the differences between contrasting types of motion; analyzed the different types of motion (slow vs. fast; towards vs. away; constant speed vs. changing speed; speeding up vs. slowing down). Graphs are accurate and clear. ____ Conclusion/Discussion completely and accurately discusses the position-time graphs for the four contrasting motions. The graph features which clearly distinguish one motion from the other are clearly identified. Writing is clear, thorough and understandable.	_____/6 (Lab score)
K5.	**Interpreting the Slope Lab** ____ Included, labeled and organized all parts of the lab report. ____ Data section includes a graph and other data relevant to the purpose under study. All data is properly labeled. Work is shown for any calculations. ____ Conclusion accurately compares the slope to the speed of the object. ____ Discussion of Results describes the evidence which supports the conclusion. Includes a percent difference calculation; work is shown and labeled.	_____/3 (Lab score)
K6.	**Velocity-Time Graphs Lab** ____ Included, labeled and organized all parts of the lab report.	_____/6

____ Data section includes labeled and titled graphs which communicate the differences between contrasting types of motion; analyzed the different types of motion (slow vs. fast; towards vs. away; constant speed vs. changing speed; speeding up vs. slowing down; continuing in one direction vs. changing directions). Graphs are accurate and clear. ____ Conclusion/Discussion completely and accurately discusses the velocity-time graphs for the four contrasting motions. The graph features which clearly distinguish one motion from the other are clearly identified. Writing is clear, thorough and understandable.	(Lab score)
K7. Match That Graph Lab ____ Included, labeled and organized all parts of the lab report. ____ Data section includes the provided page of graphs. The characteristics of a motion required to match each graph is briefly identified; the transposing of the p-t graph into the corresponding v-t graph (and vice versa) is clear and accurate. ____ Conclusion/Discussion accurately describes the principles which must be used to transpose one type of graph into the other type of graph. Discussion is thorough, elaborate and accurate. Focus of discussion is on the corresponding features of each type of graph. Discussion reveals understanding.	_____/6 (Lab score)
K8. Two-Stage Rocket Lab ____ Included, labeled and organized all parts of the lab report. ____ Data section includes velocity-time graph for the given motion; strategic coordinates (at the end of fuel stages; at the peak, explosion time) are shown on the graph. Slopes and areas are accurately calculated; work is labeled and clearly shown for each calculation; work is organized; units are stated. Results of calculations are accurately summarized in table form. ____ Conclusion/Discussion uses words to summarize the analysis; responses to post-lab questions are accurate, thorough and clear.	_____/8 (Lab score)
K9. Free Fall Lab ____ Included, labeled and organized all parts of the lab report. ____ Data section includes sketch of the velocity-time graph. The hilighted region used to determine the slope is shown on the graph. A table of several trials is recorded with column headings and units; slope values for each trial are reported. An average of all reasonable trials is recorded. Class data is reported and labeled. ____ Conclusion describes the free fall acceleration of the object, accurately responding to each of the three parts of the Purpose. ____ Discussion of Results appropriately evaluates the reliability of the data; personal data is compared to class data and to the theoretical value. A percent error analysis is performed; work is shown and labeled. Reveals understanding.	_____/5 (Lab score)
K10. Dune Buggy Challenge Lab ____ Included, labeled and organized all parts of the lab report. ____ Data section includes an informative and labeled diagram; distances and other information is labeled. An organized solution to the lab challenge is shown and labeled. The logic behind each step of the solution is annotated. Calculations are correct. Prediction was successful. ____ Discussion of Results identifies the results as being either successful or unsuccessful. If unsuccessful, possible sources of error were discussed.	_____/5 (Lab score)
K11. 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.	_____/8 (HW score)
