Light and Color 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. Nine Light and Color 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
L1.	**Ripple Tank Lab** ____ Included, labeled and organized all parts of the lab report. ____ Data section includes the provided diagram; nodal and antinodal lines were traced and labeled with an **m** number. Specific nodal and antinodal points were selected and labeled with a letter; measurements from these points to the two sources (in terms of λ) are recorded in the provided data table. Path difference values are recorded (in terms of λ) as well. ____ Conclusion states the equations relating the path difference to the wavelength for nodal and antinodal points. Symbols used within the equation are defined. Equations are accurate and clear. ____ Discussion of Results describes the evidence leading to each of the equations in the Conclusion section. Specific trials are referenced and discussed to provide evidence for the equation.	_____/4 (Lab score)
L2.	**Two-Point Source Analysis Lab** ____ Included, labeled and organized all parts of the lab report. ____ Data section includes the provided graphic and the completed table. Calculations of wavelength are accurate; work is clearly shown for the two methods. ____ Conclusion/Discussion describes the results of the analysis and compares the effectiveness of the two methods (equations) in calculating the wavelength. The more accurate method should be identified; evidence to support this conclusion is intelligently discussed.	_____/4 (Lab score)
L3.	**Young's Experiment Lab** ____ Included, labeled and organized all parts of the lab report. ____ Data section includes a *top view* of the experimental set-up; measurements of y, d, m and L are shown on the diagram and equated with their symbol; units are stated. Wavelength calculation is shown; work is clear and accurate; attention is given to the conversion of units. Used nanometers for the wavelength. ____ Conclusion stated the wavelength of red light in nanometers. The proper number of significant digits is used. ____ Discussion of Results includes an error analysis; work is shown and labeled for a percent error calculation.	_____/4 (Lab score)
L4.	**Getting it Right With Light** ____ Included, labeled and organized all parts of the lab report. ____ Data section includes a documented record of the various tests performed with the Polaroid filters. Record is clear and follow-able; reveals a strong ability to document an experimental investigation. ____ Conclusion/Discussion proposes a physical model of filter construction and light behavior. The model was used to explain the various observations which are documented in the Data section. The discussion is thorough, organized and accurate; reveals a good understanding of Polaroid filters and the role of a scientific model.	_____/5 (Lab score)
L5.	**Diluted by Distance Lab**	

____ Included, labeled and organized all parts of the lab report. ____ Data section includes a table of distance-illuminance data; included column headings and units. Graph of E vs. d is sketched; the results of a linear or a power regression analysis are shown and equation is written. Data appear reasonably accurate. ____ Conclusion stated the experimentally-derived equation relating the illuminance and the distance. ____ Discussion of Results describes the process used to determine the experimentally-derived equation. Includes an error analysis comparing the experimentally-derived equation and the theoretical equation.	_____/5 (Lab score)
L6. Color Addition Lab ____ Included, labeled and organized all parts of the lab report. ____ Data section includes the provided table. ____ Conclusion/Discussion clearly and accurately states four rules of adding two or more of the primary colors of light in equal intensity and discusses the result of adding primary colors of light in unequal intensity.	_____/3 (Lab score)
L7. Taking Away from RGB Lab ____ Included, labeled and organized all parts of the lab report. ____ Data section includes labeled color diagrams in which colored markers were mixed on various locations of the page. Colors being mixed were labeled; results are clearly documented. ____ Conclusion/Discussion describes the seven different results (R, G, B, C, Y, M, Black) and explains the results in terms of the subtraction of primary light colors from the original RGB incident light. Explanations are accurate and thorough.	_____/3 (Lab score)
L8. Painting with CMY Lab ____ Included, labeled and organized all parts of the lab report. ____ Data section includes the provided table; answers are given and accurate. ____ Conclusion/Discussion includes a thorough and accurate discussion of the strategy used to predict the result of mixing two or more primary pigments. Discussion centers around the strategy (not the answers). Discussion elaborates on the topic, is accurate, not vague nor ambiguous. Discussion reveals understanding.	_____/6 (Lab score)
L9. Filtering Away Lab ____ Included, labeled and organized all parts of the lab report. ____ Data section includes the provided table of observations; observations are meaningful and reasonably accurate. ____ Conclusion/Discussion includes a thorough discussion of the strategy used to predict the result of any given incident color on any given filter. Logic is clearly presented. Discussion centers around the strategy (not the answers). Discussion elaborates on the topic, is accurate, not vague nor ambiguous. Discussion reveals understanding.	_____/6 (Lab score)
L10. 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)