

Grading Rubric: Who Turned Out the Lights?

ASSIGNMENT	UNSATISFACTORY (1 POINT)	SATISFACTORY (2 POINTS)	EXCELLENT (3 POINTS)
#1: Key terms & experimental design	<ul style="list-style-type: none"> -Lab notebook does not include one or more of the outlined activities for this assignment -Completed activities include minimal detail or incorrect information 	<p>Lab notebook includes:</p> <ul style="list-style-type: none"> - Entries for all three outlined activities - Accurate definitions given for multiple terms associated with plant growth and development -Correct identification of the variable in this experiment - A prediction about the effect of light and dark treatments that makes sense based on current student knowledge 	<p>Lab notebook includes:</p> <ul style="list-style-type: none"> - Detailed entries for all three outlined activities -Detailed definitions given for all terms - Correct identification of the control and variable in this experiment - A well-developed prediction about the effect of light and dark treatments that includes supporting information
#2: Observations & measurements	<ul style="list-style-type: none"> -Lab notebook does not include one or more of the outlined activities for this assignment -Completed activities include minimal detail or incorrect information 	<p>Lab notebook includes:</p> <ul style="list-style-type: none"> - Basic drawings of light and dark treatment plants that include at a minimum the four structures listed in assignment - Differences in phenotype between light and dark treatments noted for the reference strain and at least one mutant (comparing the same strain in different treatments) - Differences in phenotype between the reference strain and at least one mutant strain noted for both light and dark treatments (comparing different strains in the same treatment) - Measurements of all strains in both light and dark treatments 	<p>Lab notebook includes:</p> <ul style="list-style-type: none"> - Drawings of both light and dark treatment plants that include details in addition to the four listed structures - Differences in phenotype between light and dark treatments noted for all four strains (comparing the same strain in different treatments) - Differences in phenotype between all four strains for both light and dark treatments (comparing different strains in the same treatment) - Measurements of all four strains in both light and dark conditions organized into a table
#3: Display & interpret data	<ul style="list-style-type: none"> -Lab notebook does not include one or more of the outlined activities for this assignment -Completed activities include minimal detail or incorrect information 	<p>Lab notebook includes:</p> <ul style="list-style-type: none"> - A visual representation of the data collected in Assignment 2 - A basic explanation of the effect of light or dark on seedlings in general - A basic comparison of the results to the predicted outcome - A basic conclusion about the importance of phytochrome photoreceptors in plants 	<p>Lab notebook includes:</p> <ul style="list-style-type: none"> - A visual representation of the data collected in Assignment 2 including figure labels and caption - A well thought out explanation of the effect of light or dark on all four strains used in this experiment - A well thought out statement indicating if the student's predication was supported or refuted by the data - A detailed explanation of the importance of phytochrome photoreceptors in plants

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#4: Digging deeper	<ul style="list-style-type: none">-Lab notebook does not include one or more of the outlined activities for this assignment-Completed activities include minimal detail or incorrect information	Lab notebook includes: <ul style="list-style-type: none">- At least two citations from peer-reviewed journals- Basic, but accurate, responses to the three questions included in assignment	Lab notebook includes: <ul style="list-style-type: none">- More than two citations from peer-reviewed journals listed in a consistent format- Well developed responses to the three questions included in assignment