Grading Rubric: Germination

ASSIGNMENT	UNSATIFACTORY (1 POINT)	SATISFACTORY (2 POINTS)	EXCELLENT (3 POINTS)
#1: Form hypotheses	-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: -Accurate definitions of some terms related to genetics, growth and development -A basic hypothesis for all four prompts -Hypotheses make sense based on current student knowledge -Some additional information is included with each hypothesis to demonstrate reasoning	Lab notebook includes: -A comprehensive list of terms of terms with thorough definitions -A thoughtful and well written hypothesis for all four prompts -Hypotheses demonstrate synthesis of geographic and climate data with understanding of variations in seed dormancy and germination -Reasoning to support each hypothesis is well articulated
#2: Collect data	-Data sheet and/or lab notebook does not include one or more of the outlined activities for this assignment -Completed activities include minimal detail or incorrect information	Data sheet and/or lab notebook includes: -Germination rate for each of the five genotypes (daily for light grown treatments) -Some qualitative data describing the phenotype of all five genotypes -Descriptions may be lacking appropriate terms for seedling anatomy, or may not address all phenotypic traits listed in assignment (shape, size, color)	Data sheet and/or lab notebook includes: -Germination rate for each of the five genotypes (daily for light grown treatments) -Detailed qualitative data describing the phenotype of all five genotypes supported by some additional quantitative data (e.g. length of hypocotyl) -Qualitative data uses appropriate terms for seedling anatomy and includes notes on the shape, size and color of seedlings
#3: Analyze data & formulate conclusions	-Data sheet and/or lab notebook does not include one or more of the outlined activities for this assignment -Completed activities include minimal detail or incorrect information	Data sheet and/or lab notebook includes: -Accurate calculations for all requested statistics -Accurate visual representation of data in scatter plots, may not include figure labels and captions -Basic but accurate responses to all prompts included in the assignment	Data sheet and/or lab notebook includes: -Accurate calculations for all requested statistics -Accurate visual representation of data in scatter plots that include figure labels and captions -Well developed responses to all prompts in the assignment that demonstrate synthesis of results with background information -Clear statement indicating whether the student's hypotheses were supported or refuted by the data