AP Biology 12 – **Photosynthesis Investigation** Assessment by: \_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Name:\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Date:\_\_\_\_\_\_\_\_\_\_\_\_\_\_ Bl:\_\_

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| ***Overall*** | **Beginning** | **Developing** | **Accomplished** | **Exemplary** |
| *Lab report does not reveal objectives, results, and/or has made no attempt at analysis.* | *Lab report reveals basic objectives and results. Analysis attempted, but does not reveal relevance.* | *Organized lab report with definite objectives, results, and relevance.* | *Organized and professional lab report with clear communication of creative, original thinking that demonstrates science as a process.* |
| **Experimental Design** | * Hypothesis is missing * Most variables are missing and/or incorrectly identified * There is no attempt at including appropriate controls and/or repetition | * Hypothesis is stated but not appropriate * Almost all variables identified correctly * There is an attempt at including appropriate controls and/or repetition, but they are incorrect | * Hypothesis is stated (if, then) but incomplete (no because) * All variables identified correctly addressed, but lacking in clarity * Controls and repetition are included but and are almost appropriate to the experiment | * Hypothesis is stated (if, then, because) * All variables clearly and correctly addressed * Appropriate controls and repetition |
| **Analysis of Results** | * Does not reach a standard described by any of the descriptors given to the right | * **Collects some** data and **attempts to record** it in a suitable format. * **Organizes and presents** data using **simple** numerical **or** visual forms.      * **Attempts to identify** a trend, pattern or relationship in the data. | * Collects **sufficient** relevant data and **records** it in a suitable format. * Organizes, **transforms** and presents data in numerical and/or visual forms, **with a few errors or omissions.** * **States** a trend, pattern or relationship shown in the data. | * Collects sufficient relevant data and records it in a suitable format. * Tables are set up independently with titles and appropriate headings (with units). * Organizes, transforms and presents data in numerical and/or visual forms **logically** and **correctly.**   + Graphs include a title (y vs. x for \_\_\_\_\_\_\_), labeled axis (with units), proper placement of independent/dependent variables and good scale.   + Appropriate graph type is chosen – bars for discreet categories and best-fit line/curve graphs for continuous data * **Describes** a trend, pattern or relationship in the data and comments on the *reliability* of the data. * Identifies how outliers affect trends * Recognition that trends may not hit all data points * Describe relationship between variables as directly proportional verses inversely proportional |
| **Conclusion** | * Hypothesis and/or results not referred to * No sources of error * Does not discuss relevance | * Refers to purpose, summarizes results without insight * Sources of error not relevant * Relevance inappropriate | * Answers purpose by summarizing results * States 1-2 relevant sources of error * Reveals relevance of results | * Answers purpose by comparing key results to predictions/hypothesis (supported/not supported/rejected) * States 2 or more insightful sources of error and suggests improvement to this lab * Connects to big picture (relevance) |
| ***On the mini poster include***: Title and names of lab members, hypothesis, data table, photo or drawing of experimental procedure, conclusion | | | | |