NAME_____ DATE_____ PERIOD_____

Directions:
The background section should be the largest section of the lab report. There are 7 components that you are **required** to address. The data tables and graph must be computer generated. The analysis and conclusion sections must be thorough, but will most likely be shorter than the background section.

The information listed in the highlighted sections is the expected requirements. For the content portion of the lab report (background, analysis and conclusion) it is possible to get bonus points for including information listed in the column 4 heading.

Writing Traits		**/12**	**4**	**3**	**2**	**1**
Focus			Background, analysis and conclusions fully aligned	Background, analysis and conclusions are partially aligned	Conclusions tied into background or analysis, but not both	Background, analysis and conclusions treated as separate entities
Organization			Sections in correct order. Logical sequence & arrangement of sentences and paragraphs.	Sections are not in order &/or minor arrangement errors of sentences and paragraphs.	Sections are not in order &/or some significant flaws in arrangement of sentences and paragraphs.	Sections are not in order &/or arrangement of sentences and paragraphs disorganized.
Mechanics	Writing		Spelling and punctuation are perfect	Spelling and punctuation are near perfect (1-2 mistakes)	May have significant errors in spelling &/or punctuation.	Spelling and punctuation may have errors to the point of distraction.
	Graph		Graph was computer generated with no errors. Graph is of professional quality.	Graph was computer generated with at most one error in title, axis labels, legend, lines, etc.	Graph has two errors in title, axis, legend, lines, etc.	Graph has 3+ errors in title, axis, legend, lines, etc.

Background/Analysis /24		**4**	**3**	**2**	**1**
Back-ground	Structure of Chloroplast	Description includes accurate description of stroma, grana, thylakoid membrane and chlorophyll	Accurately describes the anatomical relationship of thylakoid membranes and chlorophyll	Description attempted with 1-2 minor inaccuracies	Description attempted with 3 or more inaccuracies or 1 significant inaccuracy
	Process of Photolysis		Describe the destination of the 3 products of the breakdown of water in photosynthesis	Description of destination of 2 products is given	Description of destination of 1 product is given
	Role of Chlorophyll in Light Absorption	Describe which frequencies of light chlorophyll can absorb and why and the resulting effect	Describe which frequencies of light chlorophyll can absorb and the resulting effect	Unclear link between chlorophyll's absorption and resulting effect	Description attempted, but information is inaccurate or incorrect
	Structure and Role of the Electron Transport Chain	Clearly relates the action of redox reactions to the reduction of NADPH+	Summarizes the structure and function of the electron transport chain	Description attempted with1-2 minor inaccuracies	Description attempted with 3 or more minor inaccuracies or 1 significant inaccuracy
	Role of NADPH+		Describe the role of NADPH+ regarding electrons and the e.t.c.	Description attempted with 1-2 minor inaccuracies	Description attempted with 3 or more inaccuracies or 1 significant inaccuracy
	Role and Action of DPIP		Describe what molecule DPIP takes the place of and how it changes as it does its job	Description attempted with1-2 minor inaccuracies	Description attempted with 3 or more minor inaccuracies or 1 significant inaccuracy
	How colorimeter measures action of DPIP reduction and how data from colorimeter will be interpreted to determine rate of photosynthesis	Clearly relates the color of the solution with absorbance readings and amount of photosynthetic reactions taking place	Relates the color of the solution with absorbance readings	Relationship attempted with with1-2 minor inaccuracies	Description attempted with 3 or more minor inaccuracies or 1 significant inaccuracy
Analysis			Rate of reaction for each experimental color group is indicated with proper units.	Rates given with 1 minor inaccuracy	Rates given with 2 or more inaccuracy
Conclusion /6		**7-8**	**5-6**	**3-4**	**1-2**
Conclusion	Explanation of photosynthetic rates and tie into background	In addition to information listed in the expected field, accurately explains why red light shows the fastest rate of photosynthesis.	Uses information discussed in the background to compare the relative rates of photosynthesis among blue, green, red and white light. (Be sure to address light absorbed vs light reflected.)	Discussion attempted with 1-2 minor inaccuracies	Discussion attempted with 3 or more minor inaccuracies or 1 significant inaccuracy