Photosynthesis

Name _____
Date _____
Biology 230

Purpose_____

_____

_____

Results

DCIP reduction Distance from light _____cm. _600_ft-candles.

Time (sec)	Abs.			
	Blank	Tube 2	Tube 3	Tube 4
0	0	0.500	0.405	0.412
30		0.146	0.390	
60		0.000	0.330	
90			0.366	
120			0.355	
150			0.348	
180			0.353	
210			0.340	
240			0.339	
				0.395

Plot Absorbance and Time and attach your graph then complete the following conclusions.

Effect of light intensity

Distance from light (cm)	Intensity (ft-candles)	Abs. (0 time)	Abs. (_2.5_min)	Change
	4330	1.081	0.041	
	2110	0.008	0.016	
	1930	1.236	0.298	
	830	0.998	0.000	

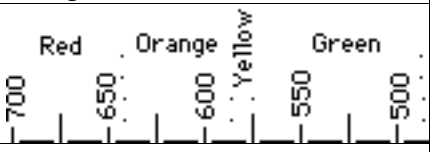
Plot Change in Absorbance (Δ Abs.) and Intensity and attach your graph.

Action spectrum Light intensity: _____ft-candles.

Color	Abs. (0 time)	Abs. (_1_min)	Change
Red	0.499	0.116	
Green	0.898	0.715	
Yellow	0.427	0.016	
Blue	0.702	0.645	

Plot Change in Absorbance (Δ Abs.) and Color (λ) and attach your graph.

Absorption spectrum

	Light transmitted (λ in nm)
Indicate which colors you see through the spectroscope as light passes through each of the following	
White light	all. rainbow.
Yellow glass	yellow
Green glass	tellow, green blue
Red glass	red
Blue glass	blue
Chlorophyll	red, yellow, green, blue
Acetone	all, rainbow
Leaf	green

Pigments

On a separate piece of paper, sketch the chromatograms for each extract or attach your labeled chromatogram.

What pigments did you detect in the pigment extracts?

Pigment	Organisms					Fluoresce?	R_f
	Cyanobacteria	Rhodophyta	Phaeophyta	Chlorophyta	Plantae		

Questions and Conclusions

1. How is the DCIP reduced in these experiments?

2. In the DCIP reduction experiments:
   Maximum photosynthesis occurred in tube # _____ because _____

   Photosynthesis was less in tube #_____ because _____

   and in tube #_____ because _____