FLINN SCIENTIFIC

Name_____

Chromatography Worksheet

Observations and Analysis

Spinach

Band	Distance (mm)	Band Color	R_f	Pigment name
Solvent front		——	——	——
1				
2				
3				
4				
5				

Blue-green algae

Band	Distance (mm)	Band Color	R_f	Pigment name
Solvent front		——	——	——
1				
2				
3				
4				
5				

Questions

1. What factors are involved in the separation of the pigments?

2. Would you expect the R_f value of a pigment to be the same if a different solvent were used? Explain.

3. Which pigment directly captures light energy? What are the roles of the other pigments?

Photosynthesis Worksheet

Observations and Analysis

	Percent Transmittance			
Cuvet	0 minutes	5 minutes	10 minutes	15 minutes
Control				
Dark				
Active				
Heated				

Graph the data for the reduction of DCPIP by light. For this graph, the following will need to be determined:

a. What is the dependent variable?

b. What is the independent variable?

Questions

1. What is the purpose of DCPIP in this experiment?

2. What is the purpose of the following cuvets: the zero cuvet, the blank cuvet, and the control cuvet?

3. What was measured with the spectrophotometer in this experiment?

4. What reasons can you give for the difference in the rate of photosynthesis between the active chloroplasts that were incubated in the light and those that were heated?

5. What reasons can you give for the difference in the rate of photosynthesis between the active chloroplasts that were incubated in the light and those that were kept in the dark?