

St. Francis Xavier's College  
F.2 Integrated Science Lab Report (exp. 7.13)

Name: \_\_\_\_\_ Class: \_\_\_\_\_ (       )

A. Aim: \_\_\_\_\_

B. Hypothesis:  
\_\_\_\_\_  
\_\_\_\_\_

C. List of Apparatus: (omitted)

D. Identifying variables

To be kept the same (Controlled variables)	To be changed (Independent variable)	To be measured (Dependent variable)

E. Procedure:

\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_  
\_\_\_\_\_

Draw the experimental setup

F. Precaution

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G. Result:

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H. Discussion:

1. What can you tell from the result?

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2. Why did the alcohol turn green after the leaf was put in for 10 minutes?

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I. Conclusion:

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END

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Suggested answer

A. Aim: To show that light is necessary for photosynthesis

B. Hypothesis:

Light is necessary for photosynthesis to take place      **(1 mark)**

C. List of Apparatus: (omitted)

D. Identifying variables

To be kept the same (Controlled variables)	To be changed (Independent variable)	To be measured (Dependent variable)
Type of leaf used	Presence of light	Presence of starch in the leaf
Amount of light	<b>0.5 mark</b>	<b>0.5 mark</b>
Temperature		
Presence of carbon dioxide		
Presence of oxygen		
Water supply		

E. Procedure:

1. A potted plant with variegated leaves was destarched by putting it in the dark for 2 days.
2. Part of each leaf was covered by aluminium foil.
3. The potted plant was put under bright light for an hour.
4. A leaf was removed from the plant and the aluminium foil was removed from the leaf.
5. The leaf was put into a beaker of boiling water for about 2 minutes.
6. The leaf was transferred, using a glass rod, to the boiling tube, which was half-filled with alcohol.
7. The boiling tube was put into the beaker of hot water for about 10 minutes.
8. The leaf was put in the beaker of hot water for half a minute.
9. The leaf was spread on a white tile. A few drops of iodine solution were added to it.

**(2 marks, if not past tense: -0.5 mark; if not passive voice: -0.5 mark; if not point form: -0.5)**

F. Precaution

1. Handle hot water with care.
2. Do not put naked fire close to alcohol which is flammable.
3. Wear safety goggles throughout the experiment.

**(1 mark, if not present tense: -0.5)**

G. Result:

The part of the leaf exposed to light was blue-black, and the part not exposed to light was brown.

**(1 mark, if not past tense: -0.5 mark)**

H. Discussion:

1. What can you tell from the result?

Starch is present in the part exposed to light but absent in the part not exposed to light. **(1 mark)**

2. Why did the alcohol turn green after the leaf was put in for 10 minutes?

The alcohol turned green since it removed the chlorophyll from the leaf. **(1 mark)**

I. Conclusion:

Light is necessary for photosynthesis to take place. **(1 mark)**

**(1 mark for tidiness/impression)**




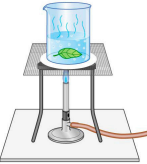
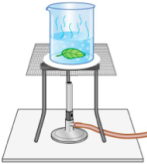



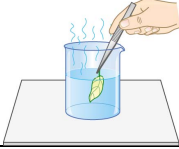
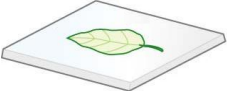


**(deduct 1 mark for late assignments)**

END

St. Francis Xavier's College  
F.2 Integrated Science  
Investigating whether light is needed for photosynthesis - Report Writing

Name: \_\_\_\_\_

Class: F.2 ( ) Class number: \_\_\_\_\_

			
Do this! (Imperative Form)	1. Destarch a potted plant for 24 hours	2. Cover part of a leaf on the potted plant with a piece of aluminium foil	3. Place the potted plant under sunlight for at least 4 hours
What was done? (Past Tense & Passive Voice)			
			
Do this! (Imperative Form)	4. Place the leaf into a beaker of boiling water for two minutes	5. Turn off the Bunsen burner	6. Use a pair of forceps to put the leaf into a boiling tube half-filled with alcohol
What was done? (Past Tense & Passive Voice)			
			
Do this! (Imperative Form)	7. Place the boiling tube into a beaker of hot water for 10 minutes	8. Take the leaf out of alcohol with pair of forceps	9. Wash the leaf in the beaker of hot water
What was done? (Past Tense & Passive Voice)			
			
Do this! (Imperative Form)	10. Take the leaf out and spread it on a white tile	11. Add a few drops of iodine solution to the leaf	12. Observe the colour change of the solution
What was done? (Past Tense & Passive Voice)			