

## A. Photosynthesis

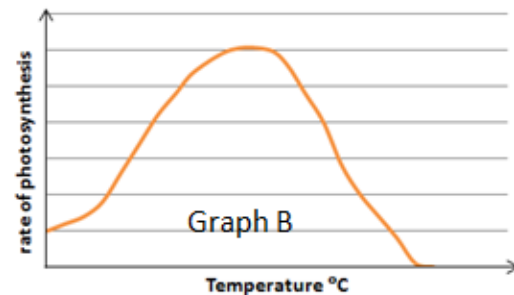
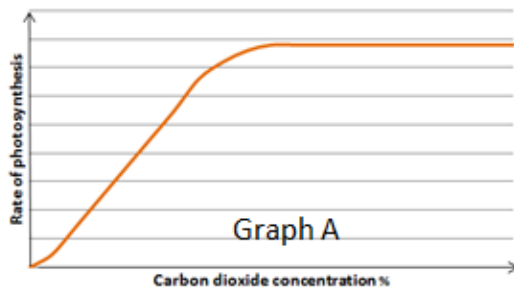
- Write down the word equation for photosynthesis.
- Copy and complete this table.

Name of molecule	Chemical Symbol
Water	
Oxygen	
Carbon dioxide	
Glucose	

- Photosynthesis is affected by limiting factors.

What is meant by the term 'limiting factor'?

- Name the raw materials needed by a plant for photosynthesis?
- Name the green pigment present in plant cells.
- What is the role of this green pigment?
- For the graphs below - identify what the limiting factor(s) might be in the experiments.



- Sketch out Graph A and draw a line onto it showing what might occur if the experiment was repeated at a lower light intensity.
- List three ways commercial farmers improve the environmental conditions to maximise photosynthesis and ensure they make a profit.
- How is the glucose produced by photosynthesis used in plants?

### Higher Tier Questions

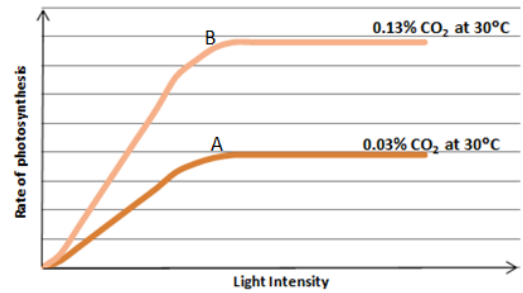
HT 11. Calculate the light intensity for the following student data. Use the formula:

$$\text{Light Intensity} = 1/\text{distance}^2$$

Distance (d) of lamp from pond weed (m)	0.3	0.5
Light Intensity $1/d^2$		

HT 12. a) What is the limiting factor at A?

b) What might the limiting factor(s) be at point B?



## B. Respiration

- When does respiration occur in cells?
- Copy and complete the table below:

	Aerobic respiration	Anaerobic respiration in animal cells	Anaerobic respiration in plant and yeast cells
Oxygen required?			
End products			
Oxidation of glucose complete/incomplete?			
Efficiency of energy transfer is high or low?			

- Name **three** processes that organisms require energy for.
- What does the chemical formula  $C_6H_{12}O_6$  represent?
- Write down the word equation for aerobic respiration in a plant cell.
- Write down the word equation for anaerobic respiration in a yeast cell.
- Why is fermentation of economic importance?
- Describe **three** ways in which the body responds to vigorous exercise in order to ensure sufficient oxygen reaches the muscle cells.
- If exercise carries on for a long time, what happens to the muscles?
- Why is respiration described as an endothermic reaction?

11. Copy and complete the table below:

<b>Name of large molecule</b>	<b>Made from subunits of:</b>
Carbohydrate	
Lipid	
Protein	

12. What is the definition of metabolism?

**Higher tier questions**

**HT 13. Describe the process for removing lactic acid from the body.**

**HT 14. What is meant by the term 'oxygen debt'?**