

Photosynthesis & Cellular Respiration

1. Numerical response question

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Left justify your answer in the boxes provided.

Choose from the list of chemical reagents in the box below to answer this question.

Number	Chemical reagent
1	$O_{2(g)}$
2	$CO_{2(g)}$
3	$H_2O_{(g)}$
4	$H_2O_{(l)}$
5	$C_6H_{12}O_6$

The **products** of cellular respiration and the **reactants** of photosynthesis are _____ and _____

Express the numbers in ascending order

2. Numerical response question

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Left justify your answer in the boxes provided.

Choose from the list of descriptors in the box below to answer this question.

Number	Descriptor
1	Photosynthesis
2	Respiration
3	Exothermic
4	Released
5	Absorbed
6	Endothermic

- During the process of Photosynthesis, energy is _____, an indicating an _____ change
- During the process of _____, energy is released, indicating an _____ change.

Express the numbers in ascending order

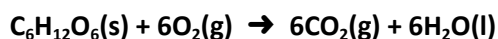
3. A student comparing cellular respiration and hydrocarbon combustion reactions made the following statements.

Number	Statement
I	In both reactions, C-H bonds break and C=O bonds form
II	Combustion is endothermic and cellular respiration is exothermic
III	Only cellular respiration is an oxidation reduction reaction.

The student's FALSE statement(s) is/are _____.

a	I and II
b	I and III
c	II and III
d	I, II and III

4. Respiration occurs when a human body combusts glucose. The reaction is represented below.



The molar heat of combustion of glucose is _____ $\frac{\text{kJ}}{\text{mol}}$.

a	-1849.7
b	-1585.7
c	-2538.5
d	-2802.5

5. During cellular respiration _____ energy found in chemical bonds is _____ as thermal energy to keep the cells alive.

a	Chemical	Released
b	Potential	Released
c	Chemical	Absorbed
d	Potential	Absorbed

6. In the presence of light, the Euglena is an organism that can produce glucose by photosynthesis. The major energy conversion in the Euglena is an _____ change with _____.

a	Endothermic	An increase in potential energy
b	Exothermic	A decrease in potential energy
c	Endothermic	An increase in kinetic energy
d	exothermic	A decrease in kinetic energy

Answers:

1. 24
2. 5623
3. C
4. D
5. B
6. A