



Name \_\_\_\_\_ Class \_\_\_\_\_ Date \_\_\_\_\_

1 **Respiration** is best described as a process by which

- A necessary nutrients are circulated
- B hydrogen is used to synthesize glucose
- C metabolic wastes are absorbed
- D chemical energy is converted into a usable form

3

1.  $\text{glucose} + 2 \text{ATP} \rightarrow 2 \text{ pyruvic acid} + 4 \text{ATP}$   
 2.  $2 \text{ pyruvic acid} + \text{oxygen} \rightarrow \text{carbon dioxide} + \text{water} + 34 \text{ATP}$

In animals, the reaction in **equation 2** occurs in the

- A lysosomes
- C mitochondria

2

1.  $\text{glucose} + 2 \text{ATP} \rightarrow 2 \text{ pyruvic acid} + 4 \text{ATP}$   
 2.  $2 \text{ pyruvic acid} + \text{oxygen} \rightarrow \text{carbon dioxide} + \text{water} + 34 \text{ATP}$

Two molecules of **ATP** are needed in **equation 1** so that

- A oxygen is added to hydrogen in glucose
- B energy needed to activate this reaction is provided
- C energy needed to trap radiant energy is provided
- D glucose is split into hydrogen

4

1.  $\text{glucose} + 2 \text{ATP} \xrightarrow{\text{Y}} 2 \text{ pyruvic acid} + 4 \text{ATP}$   
 2.  $2 \text{ pyruvic acid} + \text{oxygen} \xrightarrow{\text{Y}} \text{carbon dioxide} + \text{water} + 34 \text{ATP}$

What does **letter Y** represent?

- A enzymes
- B hemoglobin

5

**PREVIEW**

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7

B hydrolysis  
 C photosynthesis  
 D respiration

B Carbon dioxide reacts with hydrogen.  
 C PGAL molecules are changed to sugar.  
 D Oxygen is combined with carbon dioxide.

9

The synthesis of carbohydrates occurs in the **stroma** of **chloroplasts**. This process uses **energy** supplied by

- A ATP
- B CO<sub>2</sub>
- C PGAL
- D O<sub>2</sub>

10

One immediate cause of a decrease in the rate of **photosynthesis** is a **reduction** in the availability of

- A carbon dioxide
- B carbon monoxide
- C hydrogen
- D nitrogen

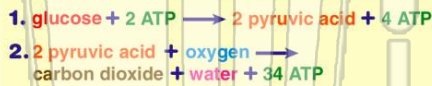


## ANSWER KEY

**Respiration** is best described as a process by which

- A** necessary nutrients are circulated
- B** hydrogen is used to synthesize glucose
- C** metabolic wastes are absorbed
- D** chemical energy is converted into a usable form

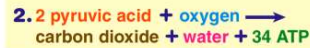
(d)



In animals, the reaction in **equation 2** occurs in the

- A** lysosomes
- B** chloroplasts
- C** mitochondria
- D** ribosomes

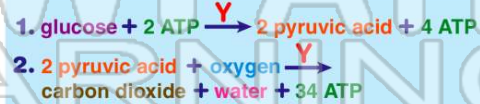
(c)



Two molecules of **ATP** are needed in **equation 1** so that

- A** oxygen is added to hydrogen in glucose
- B** energy needed to activate this reaction is provided
- C** energy needed to trap radiant energy is provided
- D** glucose is split into hydrogen

(b)



What does **letter Y** represent?

- A** enzymes
- B** hemoglobin
- C** light and chlorophyll

(a)



## PREVIEW

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- C** photosynthesis
- D** respiration

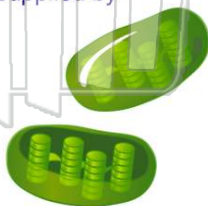


with hydrogen.

- C** PGAL molecules are changed to sugar.
- D** Oxygen is combined with carbon dioxide.

The synthesis of carbohydrates occurs in the **stroma** of **chloroplasts**. This process uses **energy** supplied by

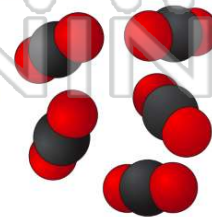
- A** ATP
- B** CO<sub>2</sub>
- C** PGAL
- D** O<sub>2</sub>



(a)

One immediate cause of a decrease in the rate of **photosynthesis** is a **reduction** in the availability of

- A** carbon dioxide
- B** carbon monoxide
- C** hydrogen
- D** nitrogen



(a)