# Photosynthesis and respiration

BIO

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

**2**

1. glucose + 2 ATP ⟶ 2 pyruvic acid + 4 ATP
2. 2 pyruvic acid + oxygen ⟶ carbon dioxide + water + 34 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

**3**

1. glucose + 2 ATP ⟶ 2 pyruvic acid + 4 ATP
2. 2 pyruvic acid + oxygen ⟶ carbon dioxide + water + 34 ATP

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

**4**

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

What does **letter Y** represent?


PREVIEW

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**5**

**7**

**B** hydrolysis
**C** photosynthesis
**D** respiration

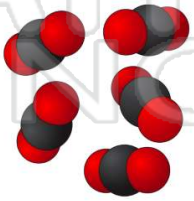

**B** Carbon dioxide reacts with hydrogen.
**C** PGAL molecules are changed to sugar.
**D** Oxygen is combined with carbon dioxide.

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

**A** ATP
**B** $CO_2$
**C** PGAL
**D** $O_2$

**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



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# Photosynthesis and respiration - Answer Key

BIO

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

D

**2**

1. glucose + 2 ATP ⟶ 2 pyruvic acid + 4 ATP
2. 2 pyruvic acid + oxygen ⟶ carbon dioxide + water + 34 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

B

**3**

1. glucose + 2 ATP ⟶ 2 pyruvic acid + 4 ATP
2. 2 pyruvic acid + oxygen ⟶ carbon dioxide + water + 34 ATP

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

C

**4**

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

What does **letter Y** represent?

A


PREVIEW

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**5**

D

**7**

**B** hydrolysis
**C** photosynthesis
**D** respiration


A

**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** $CO_2$
**C** PGAL
**D** $O_2$

A

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

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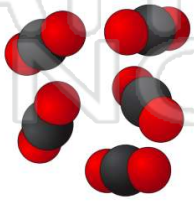

A

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