

Test – Lesson 6 – Take in Energy - Part 2

1. Glucose enters cells by \_\_\_\_\_.
  - (A) simple diffusion
  - (B) facilitated diffusion
  - (C) active transport
  - (D) aquaporin channels
2. Glycolysis \_\_\_\_\_.
  - (A) requires oxygen
  - (B) requires 2 ATP molecules to begin
  - (C) requires 2 molecules of NADH
  - (D) requires pyruvate
3. Which statement about glycolysis is not true?
  - (A) The products of glycolysis enter the Krebs's cycle.
  - (B) Oxygen allows glucose to bypass glycolysis and enter mitochondria directly.
  - (C) Glycolysis occurs outside mitochondria.
  - (D) Glycolysis produces NADH.
4. Which statement about glycolysis is not true?
  - (A) Glycolysis requires oxygen.
  - (B) Glycolysis requires  $\text{NAD}^+$ .
  - (C) Glycolysis produces a net of 2 ATP for every molecule of glucose.
  - (D) Glycolysis produces 2 molecules of pyruvate for every molecule of glucose.
5. Which statement is not true?
  - (A) Oxygen, pyruvate, and NADH enter the mitochondrion to make acetyl coenzyme A.
  - (B) Water, ATP, heat, and carbon dioxide exit the mitochondrion.
  - (C) Pyruvate dehydrogenase is needed to make carbon dioxide.
  - (D) Carbon dioxide molecules are made from molecules of pyruvate.
6. Which statement about the Krebs's cycle is not true?
  - (A) The Krebs's cycle makes carbon dioxide.
  - (B) The Krebs's cycle makes NADH.
  - (C) The Krebs's cycle makes  $\text{FADH}_2$ .
  - (D) The Krebs's cycle releases acetyl groups from six-carbon citrate groups.
7. NADH and  $\text{FADH}_2$  provide energy for \_\_\_\_\_.
  - (A) oxidative phosphorylation to pump protons into the intermembrane space of a mitochondrion
  - (B) oxidative phosphorylation to pump protons into the matrix of the mitochondrion
  - (C) oxidative phosphorylation to split water molecules apart
  - (D) oxidative phosphorylation to split oxygen molecules apart

8. Oxidative phosphorylation removes energy from high-energy electrons to make ATP. The electron is then used to make molecules of \_\_\_\_\_.

- (A) water
- (B) oxygen
- (C) carbon dioxide
- (D) NADH

9. Both chloroplasts and mitochondria make ATP by allowing protons to flow out of the \_\_\_\_\_.

- (A) intermembrane space of mitochondria and interior of thylakoids.
- (B) matrix of mitochondria and the stroma of the thylakoid.
- (C) intermembrane space of mitochondria and stroma of the chloroplast.
- (D) matrix of mitochondria and the interior of thylakoids.

10. Uncoupling of mitochondria results in \_\_\_\_\_.

- (A) more ATP being made
- (B) more heat being made
- (C) more water being made
- (D) more carbon dioxide being made