

1. In humans, glucose is stored as glycogen in _____.
 - (A) muscles and fat
 - (B) muscles and liver
 - (C) liver and fat
 - (D) muscles and pancreas
2. The carbon atom removed from pyruvate as it enters the Krebs cycle in the mitochondrion is used to make _____.
 - (A) glucose
 - (B) lactate
 - (C) acetate
 - (D) carbon dioxide
3. The 2-carbon molecule left behind from pyruvate is combined with coenzyme A to make acetyl coenzyme A. Acetyl coenzyme A _____.
 - (A) is broken down into long chain glycogen molecules
 - (B) is oxidized to acetic acid
 - (C) enters the Krebs cycle
 - (D) transports oxygen molecules into the mitochondrion
4. Besides coming from molecules of glucose, acetyl coenzyme A can also come from all of the following molecules except _____.
 - (A) cellulose
 - (B) glycogen
 - (C) fatty acids
 - (D) triglycerides
5. The hormone that stimulates the breakdown of triglycerides into fatty acids is _____.
 - (A) aldosterone
 - (B) adrenaline
 - (C) antidiuretic hormone
 - (D) glucagon
6. The molecule that escorts fatty acids into mitochondria is _____.
 - (A) acetyl coenzyme A
 - (B) lactate
 - (C) ATP synthase
 - (D) carnitine

Test Lesson 7 – Take in Energy - Part 3

Page 2

7. Pound for pound fat has twice as much energy as carbohydrates, because fat has _____.

- (A) a higher concentration of carbon-oxygen bonds than carbohydrates
- (B) a higher concentration of carbon atoms than carbohydrates
- (C) a lower concentration of oxygen atoms than carbohydrates
- (D) a lower concentration of carbon-hydrogen bonds than carbohydrates

8. Except for their seeds, plants don't need fats and oils as an energy source because _____.

- (A) plants can rely on sunlight for energy
- (B) plants can use their large supply of cellulose for their energy needs
- (C) plants rely heavily on water for their stability and water does not mix well with fats and oils
- (D) plants are not mobile

9. Plants store carbohydrates for future energy needs as starch in all of the following except _____.

- (A) their fruit
- (B) their roots
- (C) their tubers
- (D) their cellulose

10. Which of the following statements is true?

- (A) Plants make ATP with their chloroplasts and therefore do not need mitochondria to make ATP.
- (B) Bacteria do not have mitochondria.
- (C) Plants make oxygen in their chloroplasts, and thus do not consume oxygen molecules.
- (D) Bacteria do not have an electron transport chain.