

Quiz 01 / Answers

Basic Physiology

1.) The most accurate form of measurement for long-term health and weight-management is (check one):

- Pounds on the scale
- Body Mass Index (BMI)
- **Body Composition (lean mass vs. body-fat)**

2.) The word “calorie” relates to:

- **Combustion (to produce energy)**
- Fat on your body
- Carbohydrate

3.) Make the following conversions:

Food	Grams	Calories
Fat	5	45
Carbohydrate	10	40
Protein	20	80

4.) Basal Metabolic Rate (BMR) is the:

- **Minimum amount of calories required for vital bodily functions during a relaxed, reclined and waking state**
- Amount of calories required to heat a one (1) cup of water one (1) degree Celsius in one (1) minute
- Amount of energy used during an intense workout

5.) The most healthy way to decrease body-fat is:

- Drop your caloric intake below 800 calories per day
- **Through a slight negative energy balance where the caloric expenditure slightly exceeds the caloric intake**
- Liposuction

6.) The body’s first choice for fuel is:

- Stored fat
- **Stored glycogen**
- Stored protein

7.) The body can convert fat into glucose to feed its nervous system and metabolism:

- True
- False

8.) The body can convert protein into glucose to feed its nervous system and metabolism:

- True
- False

9.) When caloric intake goes below BMR, as in commercial weight-loss programs, the body will:

- Perceive starvation and create a “survival” metabolism
- Burn muscle to fuel its energy requirements
- Slow down metabolism to reduce energy requirements
- Store even more body-fat to fend off the perceived threat of starvation
- All of the above

10.) People who continue to go on and off “restricted calorie” diet programs typically rebound to a higher weight after each round of dieting. This rebound effect is known as: _____

- YO-YO Dieting

Quiz 02 / Answers

Digestion

- 1.) Your body is approximately 55%:(check one):
 - Carbohydrate
 - Protein
 - **Water**

- 2.) All people process food in the exact same manner and speed:
 - True
 - **False**

- 3.) Chewing, swallowing and the muscular activity of the walls of the digestive tract itself are part of the:
 - Chemical Phase
 - **Mechanical Phase**
 - Lunar Phase

- 4.) The final breakdown of food particles is part of the:
 - **Chemical Phase**
 - Mechanical Phase
 - Lunar Phase

- 5.) The process of digestion actually begins when food enters:
 - **The mouth**
 - The large intestine
 - The duodenum

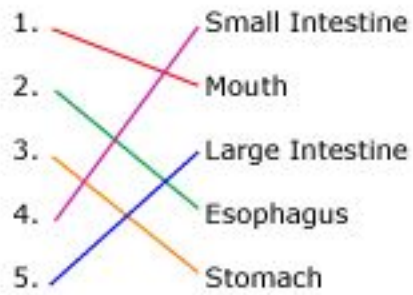
- 6.) Which leaves the stomach most rapidly?
 - **Carbohydrate**
 - Fat
 - Protein

- 7.) After leaving the stomach, the liquefied mass, called chyme passes into the:
 - Large intestine
 - **Small intestine**
 - Pancreas

- 8.) The finger-like projections called “villi” help to:
 - **Increase the intestinal absorption area by about 600-fold**

- Convert fat into protein
- Increase red blood cells

9.) Draw lines to connect and demonstrate the digestion sequence:



10.) The lymphatic vessels (tiny vessels in each villus) accept:

- Digested protein
- Digested carbohydrates
- Digested fat

Quiz 03 / Answers

Carbohydrate

- 1.) **The manufacture by plants of carbohydrates and oxygen from carbon dioxide and water in the presence of chlorophyll with sunlight as the energy source is called:**
 - **Photosynthesis**
 - Photo-Op
 - Digital photography

- 2.) **Carbohydrates are complex molecules composed of:**
 - **Carbon, Hydrogen and Oxygen**
 - Iron, Nitrogen and Uranium
 - Electrons, Protons and Calcium

- 3.) **For Americans interested in sensible weight-mgmt. through fitness, carbohydrates should provide about half to two-thirds of caloric energy intake:**
 - **True**
 - False

- 4.) **To reduce body-fat and maintain optimal health, most Americans should:**
 - Radically reduce carbohydrate intake as in Low-Carbohydrate meal plans
 - **Maintain a balance of all nutrients as in a holistic sense**
 - Radically increase carbohydrate intake as in Carbo-Loading

- 5.) **Carbohydrates are broken down and transformed into:**
 - Simple proteins
 - Simple fats
 - **Simple sugars**

- 6.) **After supplying Glucose and Glycogen to the brain, nervous system, muscle and liver, the excess is converted into:**
 - **Fat, and stored throughout the body as a reserve source of energy**
 - Water, and stored in the bladder as a reserve source of energy
 - Chlorophyll, and stored in the brain as a reserve source of energy

- 7.) **Carbohydrate snacks that contain large amounts of refined sugars promote:**
 - A sudden rise in body-fat often followed by an “insulin spike”
 - **A sudden rise in blood-sugar often followed by an “insulin spike”**
 - A sudden change in blood type often followed by an “insulin spike”

- 8.) **An “insulin spike” rapidly lowers blood-sugar levels:**

- True
- False

9.) Following an “insulin spike” most people feel:

- Happy, excited and ready for action
- **Fatigued, nervous and sometimes dizzy with a headache**
- Strong, aggressive and ready for a workout

10.) A total lack of carbohydrates can result in:

- Ketosis
- Loss of energy
- Depression
- Breakdown of lean body tissue
- **All of the above**

11.) The body can only store a limited amount of Glycogen:

- True
- False

12.) About one-third of the body’s supply of glycogen is stored in the liver. The rest is stored:

- In the stomach
- **In the muscles**
- In the brain

Quiz 04 / Answers

Protein

1.) Proteins are necessary for:

- Glycogen
- Tissue Synthesis
- Hydration

2.) Protein is more important than all other nutrients in the body:

- True
- False

3.) Proteins are complex structures made up of:

- Amino Acids
- Citric Acids
- Carbonic Acids

4.) Always present in protein is:

- Magnesium
- Helium
- Nitrogen

5.) Every body requires the exact same amount of protein:

- True
- False

6.) “Limiting” Amino Acids (found in cereals, millets and grains) means:

- They exist in smaller quantities and not in proper balance
- They limit the amount of fat your body is able to store
- They limit the amount of water your body is able to absorb

7.) In discussing amino acids, the term _____ refers to a specific nutrient the body requires, but is not capable of producing:

- Essential
- Mandatory
- Unlimited

8.) If one amino acid is supplied in a smaller amount than necessary, then the total amount of protein that can be synthesized from all other amino acids will be limited

- True
- False

9.) If one essential amino acid is completely absent, the other amino acids:

- Can not be utilized and are therefore wasted by the body
- Are stored as fat
- Converted into carbohydrate

10.) In order for protein synthesis to occur the body requires:

- Partial proteins
- Complete proteins
- Compressed proteins

Quiz 05 / Answers

Fat

1.) All fats are unhealthy for you:

- True
- **False**

2.) Oil, lard, hydrogenated shortening, butter, margarine bacon and salad dressings are the most concentrated sources of fat:

- True
- False

3.) Sources of “invisible fat” include:

- Butter, Lard, Motor Oil
- **Meats, Poultry, Fish, Eggs and Baked Products**
- Water, Soft Drinks, Cotton Candy

4.) Fats also are known as:

- Lipids
- Linoleum
- Loopholes

5.) In your body, fat digests:

- **Slowly**
- The same as all other nutrients
- Quickly

6.) The body can only do one of two things with fats:

- **It either stores fat or converts fat to energy**
- It either converts fat into muscle or stores fat in the sweat glands
- It either stores fat or converts fat to protein

7.) The two dominant forms of fat in the body are known as:

- Cellulite and Love Handles
- **Cis and Trans**
- Sweat and Cholesterol

8.) A prime place for your body to store fat is:

- **The Liver**
- The Kidneys
- The Stomach

9.) Lipotropic literally means:

- "To create the sweat"
- "To move the fat"
- "To build lean mass"

10.) A steady increase of fatty substances in the blood has been shown to:

- Increase cardiovascular disease
- Increase protein synthesis
- Increase joint stiffness

Quiz 06 / Answers

Aerobic Activity

- 1.) **Spot reducing works only if:**
 - You use the “Thigh-Master” and a Workout Video
 - You workout the same “spot” everyday
 - Applied toward thighs or abdominal areas
 - **None of the above – Spot reducing is a myth**

- 2.) **The body’s ability to breakdown sugar in the presence of oxygen is known as:**
 - Ketosis
 - Lactic Acid
 - **Aerobic Glycolysis**
 - Anaerobic Glycolysis

- 3.) **During aerobic glycolysis, oxygen inhibits**
 - The accumulation of sweat
 - The accumulation of fat
 - **The accumulation of lactic acid**

- 4.) **In general, during aerobic glycolysis (continuous activity) the muscles and liver will supply glycogen:**
 - **From 3 to 20 minutes**
 - From 4 to 6 hours
 - From 6 to 12 hours

- 5.) **Fat stores can fuel hours of exercise without running out and is, therefore, theoretically an unlimited source of energy:**
 - **True**
 - False

- 6.) **After exercise has ceased:**
 - Fat burning will immediately stop
 - **Fat burning may continue at an accelerated rate for some time (up to 4-6 hours)**
 - Fat will be converted into lean muscle mass

- 7.) **Fat can only be broken down in the presence of oxygen:**
 - False
 - **True**

- 8.) **In general, the preferred methodology for people interested in fat-loss is:**
- **Frequent sessions of long duration and consistent exercise**
 - Six 100-yard sprints each day
 - Spot-reducing in specific areas of fat accumulation
- 9.) **For most people, the most efficient fat-burning takes place when they are:**
- In the sauna
 - **In Their Target Heart Rate Zone**
 - Eating thermogenic foods
 - Spot reducing
- 10.) **To maximize efficient fat-burning metabolism, your activities should involve:**
- Only abdominal exercises
 - Only upper body movements
 - Only lower body exercises
 - **As many muscle groups as possible**

Quiz 07 / Answers

Anaerobic Activity

- 1.) **Exercise requires the body to dip into its stores of fuel, namely:**
 - Oxygen and sweat
 - **Glycogen and fat**
 - Lean mass and water
 - Muscle and nervous system

- 2.) **Exercise deficiency can lead to accelerated development of diseases associated with sedentary lifestyle (cardiovascular disease, obesity, intestinal disorders, apathy, insomnia, increased bone loss, etc) :**
 - **True**
 - False

- 3.) **Anaerobic metabolism refers to a series of chemical reactions in the body that:**
 - **Do not require oxygen**
 - Do not require sunlight
 - Do not require water
 - Do not require glycogen

- 4.) **ATP (adenosine triphosphate) is:**
 - Very limited in supply – about 30 seconds
 - The most immediate source of chemical energy for muscular activity
 - Useful in its rapid availability of energy
 - **All of the above**

- 5.) **After the allocated supply of ATP is exhausted, the body must find another fuel source for muscular activity to continue. That fuel source is the:**
 - Central Nervous System
 - **Lactic Acid System**
 - Digestive System
 - Fuel Exhaust System

- 6.) **Anaerobic Glycolysis means:**
 - The breakdown of fat without oxygen
 - The breakdown of protein without oxygen
 - **The breakdown of sugar without oxygen**
 - The breakdown of lean mass without oxygen

- 7.) **When carbohydrate is only partially broken down, one of the end products is:**

- Lactic Acid
- Amino Acid
- Stomach Acid

8.) High levels of Lactic Acid in the muscle and blood can result in:

- A more powerful workout
- Muscular fatigue and soreness
- Better digestion
- Immediate increase in energy and stamina

9.) Basketball, Tennis, Football, Volleyball and Alpine Skiing are Anaerobic:

- True
- False

10.) The two primary anaerobic fuel systems are:

- The Central Nervous System and Body-Fat System
- The Amino Acid System and Muscle System
- The ATP System and Lactic Acid System
- None of the above

Quiz 08 / Answers

Vitamins

1.) Vitamins are actually “true” foods:

- True
- False

2.) Vitamins supply energy:

- True
- False

3.) Vitamins turn body-fat into muscle:

- True
- False

4.) Vitamins typically combine with:

- Enzymes
- Lactic Acid
- ATP
- Lean Mass

5.) Generally speaking, vitamins must come from the foods we eat:

- True
- False

6.) The two classifications of vitamins are:

- Sugar soluble and oxygen soluble
- Carbohydrate soluble and protein soluble
- Water soluble and fat soluble
- Oil soluble and gas soluble

7.) Vitamins A, D, E and K are:

- Fat Soluble
- Water Soluble
- Gas Soluble
- Protein Soluble

8.) One of the most important characteristics of Vitamin E is its ability as:

- An energy booster
- An antioxidant
- Anti-depressant
- A meal replacement pill

9.) Fat soluble vitamins are more “heat-stable” than water soluble vitamins resulting in less damage during food preparation:

- True
- False

10.) Both Folic Acid and Vitamin B12 are important for:

- Eye sight
- Blood forming
- Hair thickness
- Skin rejuvenation

11.) Vitamin C is not stored or produced by the body:

- True
- False

Quiz 09 / Answers

Minerals

1.) **Minerals are classified into two (2) groups:**

- Calcium and Magnesium
- Mineral oils and Mineral deposits
- **Major minerals and Trace minerals**
- Stalactites and stalagmites

2.) **In the human body, the mineral present in the largest amount is:**

- **Calcium**
- Zinc
- Magnesium
- Iron

3.) **The physiological function of calcium is:**

- Bone and teeth formation
- Helps contract and relax muscle
- Cell wall permeability – regulates fluid passage
- **All of the above**

4.) **Sodium is a major:**

- **Electrolyte**
- Amino Acid
- Contributor to fat cells
- Muscle group

5.) **In the human body, sodium and potassium are associated with:**

- **Water balance**
- Fat balance
- Muscle growth
- All of the above

6.) **Potassium is absorbed from:**

- The stomach
- **The small intestine**
- The large intestine
- The esophagus

7.) **Iron plays a vital role in:**

- **Blood building and energy production**
- Muscle recovery and fat depletion
- Bone building and water balance
- Brain function and central nervous system

8.) Selenium is a natural antioxidant:

- True
- False

9.) Chromium is necessary for normal glucose utilization:

- True
- False

10.) “Chelated” minerals refers to the action of one or more _____ attaching itself and completely surrounding a mineral.

- Fat cells
- Amino acids
- Electrolytes
- Blood cells

Quiz 10 / Answers

Weight Training

- 1.) **Strength and weight-training is important for fat burning:**
 - True
 - False
- 2.) **Weight-training is usually an anaerobic activity:**
 - True
 - False
- 3.) **The primary fuel source during weight-training is:**
 - Vitamins and minerals
 - Fat and water
 - ATP and glucose
 - None of the above
- 4.) **For most women, muscular gain is not as great as in men – even though they make the same relative gains in strength:**
 - True
 - False
- 5.) **In static (Isometric) training, the muscle develops tension, but:**
 - Does not change length
 - Does not burn glucose
 - Does not strengthen
 - Does not need blood flow
- 6.) **A repetition is one actual movement of an exercise through a full range of motion:**
 - True
 - False
- 7.) **A set is a group of repetitions done consecutively without rest:**
 - True
 - False
- 8.) **Muscle, exercised against resistance exceeding that normally encountered is known as:**
 - The Theory of Relativity
 - The Overload Principle
 - The O'Reilly Factor
 - Psychological Overload

9.) Explain two (2) different ways to achieve muscle overload:

- Application of a resistance or weight greater than can be lifted for one repetition (strength).
- Forcing a muscle group to repeatedly lift a load or weight over an extended period of time (endurance).

10.) All men and women should use the exact same resistance training program:

- True
- False

Quiz 11 / Answers

Stress

- 1.) **Stress has no effect and plays no role in weight-management:**
 - True
 - **False**

- 2.) **Check an example of “good” stress:**
 - Shock
 - Mental
 - **Physical**
 - None of the above

- 3.) **Name four (4) bodily reactions to stress:**
 - **Easily overexcited, irritability, depression**
 - **Increased heart rate**
 - **Dryness of the throat**
 - **Impulsive behavior, emotional instability**
 - **The overpowering urge to cry or run and hide**
 - **Inability to concentrate**
 - **General disorientation, alcohol or drug addiction**
 - **Accident proneness**
 - **Feelings of unreality, weakness, dizziness**
 - **Fatigue - paranoia**
 - **Body trembling, increased medication use**
 - **High-pitched nervous laughter**
 - **Stuttering**
 - **Grinding of the teeth (bruxism)**
 - **Insomnia, nightmares**
 - **Inability to take a relaxed attitude**
 - **Perspiring**
 - **Frequent urination**
 - **Diarrhea, indigestion**
 - **Neck or lower back pain**
 - **PMS**
 - **Migraine headaches**
 - **Loss of appetite**

- 4.) **Throughout your body, all processes are precisely and automatically regulated by:**
 - **Hormone and nerve activity**
 - Muscle and skeletal activity
 - Digestion
 - Protein synthesis

5.) List two (2) major life changes that cause stress:

- Death or loss of a loved one;
- Serious illness or accident;
- Divorce or separation;
- Death of a close relative;
- Getting fired or laid off of work;
- Marriage;
- Major personal property loss (fire, theft, etc)
- New household member

6.) Once a body perceives stress, it prepares for fight or flight:

- True
- False

7.) All three energy fuels (protein, carbohydrate and fat) are drawn upon in increased amounts during stress:

- True
- False

8.) Fasting is a good way to overcome stress:

- True
- False

9.) Stress has a detrimental effect on

- Muscles
- Vitamins
- Nutrients
- All of the above

10.) Exercise produces biochemical changes which alter psychological states,

- True
- False

11.) Regular exercise may increase the secretion of:

- Amino Acids
- Endorphins
- Glucose

Quiz 12 / Answers

Danger Zone

1.) Which of the following could be considered “danger zones” due to their adverse effect on foods?

- Exposure to heat
- Smoke
- Soil depletion
- Sugar
- Some contraceptives
- Second-hand smoke

2.) Vitamin A is easily destroyed by heat and light:

- True
- False

3.) In most instances, higher quality foods are sold:

- Fresh
- Frozen
- Dehydrated

4.) BHA (Butylated hydroxyanisole) and BHT (butylated hydroxytoluene) are artificial _____ used to keep fats from becoming rancid.

- Antioxidants
- Amino acids
- Muscle proteins
- Sugars

5.) Flavorings, Stabilizers, Colorings, Sweeteners, Aroma Enhancers are all classified as:

- Food additives
- Junk food
- Food sugars
- Organic foods

6.) The skin of fruits and vegetables typically contain at least _____ of the nutritional content,

- 0%
- 10%
- 50%
- 100%

- 7.) **Sugar requires B vitamins to enable the body to metabolize it into glucose:**
- True
 - False
- 8.) **High sugar intake can reduce the effectiveness of the body's healing mechanisms.**
- True
 - False
- 9.) **The estrogen content in some oral contraceptives can result in lower than normal blood serum levels of:**
- Vitamin B6 and Vitamin C
 - H₂O
 - Fat molecules
 - Vitamin B14 and Vitamin W
- 10.) **Regular use of caffeine will typically result in:**
- Increased respiration rate
 - Increased urine output
 - Increase of fatty acids into the bloodstream
 - All of the above