

Nutrition WebQuest

Ch. 10 & 11

Part A

1. List 5 ways your body uses nutrients

A: It is used as an energy source, to heal, build, and repair tissue, to sustain growth, to help transport oxygen to cells, and to regulate bodily functions.

2. What are the 6 types of nutrients?

A: Carbs, proteins, fats, vitamins, minerals, and water.

- What are the only 3 nutrients that provide you with energy?

A: Carbohydrates, proteins, and fats.

3. What are Carbohydrates?

A: Carbs are starches and sugars found in food which provide your body's main source of energy.

- How much of your daily calories should come from carbohydrates?

A: 45 to 65 percent.

- Define and give examples of the three types of carbohydrates.

A: Simple Carbs: sugars such as fructose (found in fruits) and lactose (found in milk).

Sugars occur naturally in fruits, dairy products, honey, and maple syrup. They are also added to many processed foods such as cold cereals, bread, and bakery products.

Complex Carbs: (starches) are long chains of sugars linked together. Common sources include grains, grain products such as bread and pasta, beans and root vegetables such as potatoes.

Fiber Carbs: a tough complex carbohydrate that the body cannot digest. Fiber moves waste through your digestive system. Eating foods high in fiber can help you feel full, and may reduce the risk of cancer, heart disease and type 2 diabetes. Experts recommend eating 20 to 35 grams of fiber per day. Good sources of fiber include fruits and vegetables, whole grains, and products made from whole grains, nuts, seeds, and legumes.

- What are the benefits of fiber? Why can your body not digest fiber?

A: We can't digest fiber because the enzymes in our intestines cannot break it down; although the body cannot digest fiber, it stills plays an important role by aiding digestion and reducing the risk of disease.

4. What are Proteins?

A: They are nutrients the body uses to build and maintain its cells and tissues. They are made up of chemicals called amino acids.

- How much of your daily calories should come from Proteins?

A: Between 10 and 15 percent of your total daily calories should come from protein.

- What are essential amino acids?

A: The nine amino acids out of the 20 the body must get from food. The rest are non-essential.

5. What are Fats?

A: ***Fats** are substances that help the body use some vitamins and keep the skin healthy; they are also the main way the body stores energy. In food, there are many types of **fats** -- saturated, unsaturated, polyunsaturated, monounsaturated, and trans **fats**.* Dietary fats are composed of fatty acids, which are classified as either unsaturated or saturated. Fatty acids that the body needs but cannot produce on its own are called essential fatty acids.

- How much of your daily calories should come from Fats?

A: Nutrition experts recommend that teens consume less than 25 to 35 percent of their calories from fats because of the health risks associated with fats. Choose healthful unsaturated fats and limit your intake of saturated fats, including trans fats, to less than 10 percent of your total calories.

- Define and give examples of the three types of fats.

A: Unsaturated Fats: Vegetable oils, nuts, and seeds tend to contain larger amounts of unsaturated fats. Eating unsaturated fats in moderate amounts may lower your risk of heart disease.

Saturated Fats: is found mostly in animal based foods such as meat and many dairy products. A few plant oils (palm, coconut, and palm kernel) also contain a lot of saturated fats. Consuming too many saturated fats may increase your risk of heart disease.

Trans Fats: are formed by a process called hydrogenation, which causes vegetable oil to harden. As it hardens, the fats become more saturated. Trans fats can be found in stick margarine, many snack foods, and packaged baked goods, such as cookies and crackers. Trans fats can also raise your total blood cholesterol level, which increases your risk for heart disease.

Part B

1. What is the main difference between vitamins and minerals?

A: Whereas vitamins are organic substances (made by plants or animals), minerals are inorganic elements that come from the soil and water and are absorbed by plants or eaten by animals. Your body needs larger amounts of some minerals, such as calcium, to grow and stay healthy. Vitamins are compounds and minerals are elements however both are found in food.

2. Define Deficiency in terms of nutrition and vitamins/minerals.

A: an individual can be lacking or have a shortage of different substances in vitamins (Vitamin A, E, D, K, B1, B2, B3, B6, B12, C, and Folic Acid) and minerals (calcium, phosphorus, magnesium, and iron).

3. Compare and Contrast **Water Soluble** and **Fat Soluble** Vitamins.

A: Vitamin C, folic acid, and the B vitamins are water soluble, meaning they dissolve in water and pass easily into the bloodstream during digestion. The body doesn't store these vitamins; any unused amounts are removed by the kidneys. The fat soluble vitamins (A, D, E, and K), by contrast, are stored in body fat for later use. If consumed in large amounts, these vitamins can build up in the body to the point where they become harmful.

4. What are three functions that are essential for the body that water provides?

A: Moving food through the digestive system, digesting carbs and proteins, and aiding in other chemical reactions in the body, and transporting nutrients and removing wastes.

Vitamin	Natural	Fat/Water Soluble	Benefits	Deficiencies
A	Carrots & Fish	Fat Soluble	Eyes, Skin, Strong Bones	Night Blindness & Dryness of the Eye
B1	Whole grain cereal, lean pork, liver	Water Soluble	Helps body use carbs for energy, promotes health of nervous system	muscle weakness, problems with coordination, or loss of muscle, enlarged heart or fast heart rate

B2	Lean beef, pork, organ meats, legumes, eggs, cheese, milk, nuts, enriched grain products	Water Soluble	Helps process carbs, proteins, and fats; helps maintain healthy skin	dryness and cracking of the skin around the nose and mouth. red, dry tongue
B6	Organ meats, pork, beef, poultry, fish eggs, peanuts, bananas, carrots, fortified cereals, whole grains	Water Soluble	Helps body use proteins and fats; supports immune and nervous systems; helps blood carry oxygen to body tissues; helps break down copper and iron.	microcytic anemia, electroencephalographic abnormalities, dermatitis with cheilosis (scaling on the lips and cracks at the corners of the mouth) and glossitis (swollen tongue), depression and confusion, and weakened immune function
Folate	Dark green leafy vegetables, dry beans and peas, oranges, fortified cereals and other grain products.	Water Soluble	Helps body form and maintain new cells; reduces risk of birth defects.	results in an insufficient number of healthy red blood cells (vitamin deficiency anemia). Symptoms include fatigue and mouth sores.
C	Citrus fruits and juices, berries, peppers, tomatoes, broccoli, spinach, potatoes	Water Soluble	Protects against infection, promotes healthy bones, teeth, gums, and blood vessels; helps form connective tissue; helps heal wounds	Bruising, bleeding gums, weakness, fatigue, and rash are among scurvy symptoms.
D	Fortified cereals and dairy products, fatty fish such as salmon and tuna	Fat Soluble	Helps body use calcium and phosphorus; aids immune function; helps regulate cell growth.	thin, brittle, or misshapen bones
E	Fish, milk, egg yolks, vegetable oils, fruits, nuts, peas, beans, broccoli, spinach, fortified cereals	Fat Soluble	Protects cells from damage; aids, blood flow; helps repair body tissues	causes problems such as poor transmission of nerve impulses and muscle weakness.
K	Green leafy vegetables, vegetable oils,	Fat Soluble	Essential for blood clotting, aids in bone formation	impairs clotting, might reduce bone strength and increase

	cheese, broccoli, tomatoes.			the risk of getting osteoporosis
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5. What vitamin is essential for blood clotting, and aids in bone formation?

A: Vitamin K.

6. Which vitamin helps the body form and maintains new cells and reduce the risk of birth defects?

A: Folate.

7. By eating citrus fruits, juices, berries, peppers, and tomatoes you will get plenty of what vitamin?

A: Vitamin C.

8. By drinking milk and getting plenty of sunlight, you are getting plenty of what vitamin?

A: Vitamin D

Part C

1. What are the 5 basic food groups?

A: Grains, Vegetables, Fruits, Milk, Proteins

2. What is the most important meal of the day?

A: Breakfast

3. What are three examples of nutrient-dense foods?

A: Kale, broccoli, blueberries

4. Explain the difference between serving size and serving per container on a Nutrition Facts Label.

A: "Servings Per Container" indicates how many servings the package contains. Example: If the label says the serving size is 1 cup and there are 2 servings per container, this means there is a total of 2 cups in the container. If you eat the whole container, you are eating 2 servings.

5. Which method of preparation tends to make food high in fat?

A: Frying

6. What must be listed on a Nutrition Facts panel?

A: Serving Size and Servings per container, calories, nutrients, vitamins and minerals, footnote, percent daily value.

Part D- Ch. 11

1. Compare and Contrast the following:

- Body Mass Index

A: measure of body weight relative to height

- Body Composition

A: The ratio of fat to lean tissue in your body.

- Metabolism
A: The process by which the body breaks down substances and gets energy from food
- Energy Balance
A: The relationship between “energy in” (food calories taken into the body through food and drink) and “energy out” (calories being used in the body for our daily energy requirements).

2. What are the signs and behaviors associated with the following eating disorders?:

- Anorexia Nervosa
A: An eating disorder in which an irrational fear of weight gain leads people to starve themselves. Ex: avoiding food and meals, eating only a few kinds of food in small amounts, weighing or counting the calories in everything they eat, exercising excessively, and weighing themselves repeatedly.
- Bulimia Nervosa
A: An eating disorder that involves cycles of overeating and purging, or attempts to rid the body of food. Ex: regularly go on binges, feel out of control during binges, after binge they purge forcing themselves to vomit or taking laxatives to flush the food out of their systems, some may fast or exercise frantically after a binge.
- Binge Eating Disorder
A: Binge in the same way people with bulimia do, eating large amounts of food in a short period of time, during a binge the person may feel guilty and disgusted about his or her behavior, but feels powerless to stop it.
- Orthorexia
A: A fixation over the quality of food, Inflexible eating patterns, Severe emotional turmoil if “rules” are broken, Cutting out entire food groups, Constant worry about sickness or disease, Anxiety simply being around certain foods, This condition isn’t typically driven by poor body image, Loss of weight.
- Excessive Exercise
A: Continuing to exercise when injured or sick, Avoiding social functions to exercise, Firmly adhering to an obsessive and regimented exercise regime.

3. Describe the different types of Vegetarians and what they all have in common.

- Vegans
A: Veganism is the practice of abstaining from the use of animal products, particularly in diet, and an associated philosophy that rejects the commodity status of animals. A follower of the diet or the philosophy is known as a vegan.
- Lacto-Ovo Vegetarians
A: An ovo-lacto vegetarian or lacto-ovo vegetarian is a vegetarian who consumes some animal products, such as eggs and dairy. Unlike pescatarians, they do not consume fish or other seafood.
- Ovo Vegetarians
A: a type of vegetarianism which allows for the consumption of eggs but not dairy products, in contrast with lacto vegetarianism.

- Lacto Vegetarians

A: A lacto vegetarian (sometimes referred to as a lactarian; from the Latin root lact-, milk) diet is a diet that includes vegetables as well as dairy products such as milk, cheese, yogurt, butter, ghee, cream, and kefir, but excludes eggs.

4. Define:

- Underweight

A: below a weight considered normal or desirable.

- Overweight

A: above a weight considered normal or desirable.

- Obese

A: Grossly fat or overweight. Obesity occurs when a person's body mass index is 30 or greater. The main symptom is excessive body fat, which increases the risk of serious health problems.

5. What nutrient is best to have before a workout? What nutrient is best to have after a workout?

Before: Hydrating with water; Eating healthy **carbohydrates** such as whole-grain cereals (with low-fat or skim milk), whole-wheat toast (without the fatty cream cheese), low-fat or fat-free yogurt, whole-grain pasta, brown rice, fruits and vegetables.

After: You need **protein** for your muscles and for your blood cells, which bring nutrients and oxygen to your muscles.

6. What are the 6 main health conditions that are caused by food? Describe them

- Diabetes: People with diabetes have to monitor their eating carefully to make sure their blood sugar stays in a healthy range. Diabetics who use insulin must tailor the amount of insulin they inject to the amount of carbohydrates in the food they eat.
- Food Allergies: Food allergies can range from merely annoying to threatening. People with severe food allergies must avoid the foods and food ingredients they are allergic to. This means checking ingredient lists on packaged foods and quizzing servers at restaurants.
- Lactose Intolerance: People can't easily digest the lactose in milk and some dairy products. Some can control the problem by consuming smaller portions of milk or getting their calcium from cheese and yogurt, which contains less lactose.
- Celiac Disease: Also known as gluten intolerance, this condition makes people unable to tolerate a protein called gluten which is found in wheat, rye, and barley.
- High Blood Pressure: Consuming salt can raise a person's blood pressure. This effect is stronger in some individuals than in others. People with high blood pressure are often encouraged to keep their salt intake low.
- High Cholesterol: people with this may need to reduce their intake of saturated fats and trans fats. These fats increase cholesterol production in the body.

7. How are dehydration and electrolyte imbalances related?

A: When you sweat during exercise, your body loses fluids. These fluids must be replaced to avoid dehydration and heatstroke. Dehydration can lead to fatigue, dizziness, or light-headedness, and

cramping. Becoming dehydrated can lead to an imbalance of electrolytes--minerals that help maintain the body's fluid balance.

8. What health problems can result when athletes take performance enhancement drugs or supplements?

A: Cramps, nausea; damages heart, liver, and kidneys; unhealthy ways of increasing heart rate; dehydration.