The process of eating the right kind of food so you can grow properly and be healthy.
Nutrition is affecting the foodservice industry more and more.
Chefs can apply nutrition knowledge to:
- food preparation
- food purchasing
- menu planning
Nutrient - a substance that provides nourishment essential for the maintenance of life and for growth.

There are six nutrient groups.
Carbohydrates - any one of various substances found in certain foods (such as bread, rice, and potatoes) that provide your body with heat and energy and are made of carbon, hydrogen and oxygen.

Plants are the main source of carbohydrates.

Complex carbohydrates:
- Starch consists of long chains of glucose molecules that are broken down during digestion and provide energy at a slower rate.

Common foods include:
- bread
- grains
- legumes
- pasta
- potatoes

- Fiber consists of long chains of glucose but do not breakdown during digestion so fiber is not digested. It passes through the body and is excreted.
  - soluble fiber absorbs large amounts of liquid during digestion
    - foods include fruits, legumes, oats and vegetables
  - insoluble fiber does not absorb as much liquid
    - foods include the structural parts of various fruits and vegetables and whole grains

Simple carbohydrates consist of a single sugar unit or two sugar units combined. They include:
- fructose
- galactose
- glucose
- lactose (glucose + galactose)
- maltose (glucose + glucose)
- sucrose (glucose + fructose)
Lipids are any one of various substances that contain fat and that are important parts of living cells.

Saturated fats contain only a single bond.
- foods include dairy products, eggs, fatty meats and poultry skin

Unsaturated fats contain one or more double bonds depending on the specific oil. This includes avocados, nuts, olive oil, safflower oil, seeds, soybean oil and sunflower oil.

Hydrogenation occurs when the chemical process changes liquid oil to a solid fat.
MINERALS

- Divided into:
  - Major – 100 milligrams or more needed per day
  - Trace – less than 100 milligrams needed per day
- Necessary for important functions such as:
  - Bone formation
  - Energy metabolism
  - Proper functioning of the nervous system
  - Water balance

Minerals are needed for many body processes and become part of the body’s bones, fluids and tissues.

Major minerals include:
- Calcium
- Chloride
- Magnesium
- Phosphorus
- Potassium
- Sodium
- Sulfur

Trace Minerals include:
- Chromium
- Copper
- Fluoride
- Iodine
- Iron
- Manganese
- Molybdenum
- Selenium
- Zinc
PROTEINS

- Building blocks of the human body
- Food sources can be either:
  - Animal – complete protein
  - Plant based – incomplete protein
- Needed for:
  - Growth
  - Maintenance
  - Repair of body tissues

Proteins - a substance that has amino acids, compounds and carbon, hydrogen, oxygen, nitrogen and sometimes sulfur and is found in many foods.

Complete proteins contain all nine indispensable amino acids in the correct proportions needed to support life.
  - food sources include cheese, eggs, milk, meats, poultry and seafood

Incomplete proteins are missing one or more of the indispensable amino acids.
  - food sources include grains, legumes and nuts
VITAMINS

- Aid in the formation of healthy bones and teeth
- Are part of the blood-clotting process
- Ensure proper vision
- Support the immune system

Vitamins are either:
- Fat-soluble vitamins ingested when various fats are eaten
- Water-soluble vitamins dissolve in water

Vitamins are needed to support many of the systems within the body.

Fat-soluble vitamins include:
- Vitamin A
- Vitamin D
- Vitamin E
- Vitamin K

Water-soluble vitamins include:
- B12
- Biotin
- Folate
- Niacin (vitamin B3)
- Pantothenic acid
- Riboflavin (vitamin B2)
- Thiamin (vitamin B1)
- Vitamin C (Ascorbic Acid)
Water is the single greatest component of the human body.

Humans can survive only a short while without water.

Almost all foods contain some amount of water.
According to the Dietary Guidelines Brochure for 2010, Americans should:

- Build a healthy plate
- Cut back on foods high in solid fats, added sugars, and salt
- Eat the right amount of calories for you
- Be physically active your way
EXERCISE

- The Dietary Guidelines for 2010 recommends to:
  - Increase physical activity
  - Reduce sedentary behavior
  - Encourage physical activity in:
    - Childcare and childhood settings
    - Schools
    - Walk-to-school programs

The Dietary Guidelines for Americans are updated every five years by the Department of Agriculture (USDA) and the Department of Health and Human Services (HHS).

They provide authoritative advice for Americans ages 2 and older about consuming fewer calories, making informed food choices and being physically active to attain and maintain a healthy weight, reduce risk of chronic disease and promote overall health.

The 2015 Dietary Guidelines are scheduled to be published in the fall of 2015.
EMOTIONAL FACTORS
• Job requirements include:
  • Long hours of physically demanding work
  • Work schedule of evenings, holidays and weekends
• Pressures can be caused by:
  • Change
  • Confrontation
  • Deadlines

Stress is a state of mental tension and worry caused by problems in your life, work and so forth.
MANAGING STRESS
Positive ways include:
▪ Exercise
▪ Hobbies
▪ Meditation
▪ Reading
▪ Talking to a friend

Long-term unmanaged stress may lead to health problem such as depression, high blood pressure and insomnia.
Click on hyperlink to view video:

Healthy Kitchens, Healthy Lives™ Conference
Healthy Kitchens, Healthy Lives is a four-day conference held at The Culinary Institute of America at Greystone in the Napa Valley. The conference brings together experts from Harvard School of Public Health, the Samuei Institute, and other leading organizations, to present state-of-the-science on diet and nutrition. These experts are joined by chefs from the CIA to lead teaching sessions for healthcare professionals who want to learn about techniques for cooking delicious healthy foods.
https://youtu.be/qGmmCNe4qLo
Click on hyperlink to view video from Johnson and Wales University:

**Nutrition: Breaking Boundaries**

JWU's groundbreaking Culinary Nutrition program is changing the science of food - and it's the first of its kind to receive ACEND accreditation. Ready to launch your dietitian, product research, spa chef or medical nutrition career?

https://youtu.be/xqb_YyrNHPk?list=PLSpZmcyjE5IYAW6yYcNE1KiJxG_SVIJLg
Cooking is the process of preparing food for eating by applying heat.
Dry-heat cooking methods are often used with tender products.
• Baking – done in the oven with a certain amount of added moisture and most often covered.
• Broiling – uses radiation from heat source located above the oven to sear or brown the food.
• Deep-frying – cooks food in enough hot fat to fully cover the item.
• Grilling – uses radiation from a heat source located below the food.
• Roasting – a method that cooks a food by surrounding it with hot-air.
• Sautéing - cooking an item quickly in a small amount of hot fat over high heat.
Moist cooking - uses liquid instead of oil to create the heat energy that is needed to cook the food.

- Boiling – cooking in liquid at the highest possible temperature.
- Poaching – cooking food in a liquid at a low temperature.
- Simmering – cooks food in a liquid just below boiling.
- Steaming – cooks food by surrounding it with steam vapor.
COMBINATION

- Applies both dry and moist heat techniques to the same food
- Includes:
  - Braising
  - Stewing

Braising – combines browning and simmering and tenderizes tough cuts of meat or poultry.
Stewing – combines braising or simmering to ingredients cut into small pieces and allows them to float freely during cooking.
LET’S REVIEW!

1. Why do chefs need to know about nutrition?
2. How many nutrient groups are there? Can you name them?
3. What is the body’s chief energy source?
4. What are trans fats? Are they healthy for you?
5. There are many minerals and vitamins – how many can you name?
6. How much of the body is water?
7. How is working in the foodservice industry stressful?
8. Identify the different dry and moist cooking methods.

Answers to the questions are found within the slide presentation or may vary with class discussion.
What does this quote mean to you?
Questions?
REFERENCES AND RESOURCES

Images:
▪ Shutterstock™ images. Photos obtained with subscription. (Slides 1, 3, 4, 5, 7, 8, 9, 10, 11, 12, 13, 15)

Textbooks:

Websites:
▪ SDA WIC Work Resource System
▪ Appendix C: Nutrient Chart – Function, Deficiency and Toxicity Symptoms, and Major Food Sources

YouTube™:
▪ Healthy Kitchens, Healthy Lives™ Conference
Healthy Kitchens, Healthy Lives is a four-day conference held at The Culinary Institute of America at Greystone in the Napa Valley. The conference brings together experts from Harvard School of Public Health, the Samueli Institute, and other leading organizations, to present state-of-the-science on diet and nutrition. These experts are joined by chefs from the CIA to lead teaching sessions for healthcare professionals who want to learn about techniques for cooking delicious healthy foods.
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